

AMENDMENT OF SOLICITATION/MODIFICATION OF CONTRACT				1. CONTRACT ID CODE N/A	PAGE OF PAGES 1 2
2. AMENDMENT/MODIFICATION NO. 0011		3. EFFECTIVE DATE 20 AUGUST 1999	4. REQUISITION/PURCHASE REQ. NO.	5. PROJECT NO. (If applicable)	
6. ISSUED BY LOS ANGELES DISTRICT, COE CESPL-CT-P (S. OLIVER-HALL) P.O. BOX 532711 LOS ANGELES, CA 90053-2325		7. ADMINISTERED BY (If other than Item 6)		CODE	
8. NAME AND ADDRESS OF CONTRACTOR (No., street, county, State and ZIP code)			(X)	9A. AMENDMENT OF SOLICITATION NO. DACW09-99-B-0010	
			X	9B. DATED (SEE ITEM 11) 31 AUG 99 (BID OPENING)	
				10A. MODIFICATION OF CONTRACT/ORDER NO. N/A	
				10B. DATED (SEE ITEM 13) N/A	
CODE		FACILITY CODE		N/A	

11. THIS ITEM ONLY APPLIES TO AMENDMENTS OF SOLICITATIONS

☒ The above numbered solicitation is amended as set forth in Item 14. The hour and date specified for receipt of Offers ☐ is extended, ☒ is not extended. Offers must acknowledge receipt of this amendment prior to the hour and date specified in the solicitation or as amended, by one of the following methods:
 (a) By completing Items 8 and 15, and returning 1 copies of the amendment; (b) By acknowledging receipt of this amendment on each copy of the offer submitted; or (c) By separate letter or telegram which includes a reference to the solicitation and amendment numbers. FAILURE OF YOUR ACKNOWLEDGEMENT TO BE RECEIVED AT THE PLACE DESIGNATED FOR THE RECEIPT OF OFFERS PRIOR TO THE HOUR AND DATE SPECIFIED MAY RESULT IN REJECTION OF YOUR OFFER. If by virtue of this amendment you desire to change an offer already submitted, such change may be made by telegram or letter, provided each telegram or letter makes reference to the solicitation and this amendment, and is received prior to the opening hour and date specified.

~~12. ACCOUNTING AND APPROPRIATION DATA (If required)~~

13. THIS ITEM APPLIES ONLY TO MODIFICATIONS OF CONTRACTS/ORDERS, IT MODIFIES THE CONTRACT/ORDER NO. AS DESCRIBED IN ITEM 14.

(X)	A. THIS CHANGE ORDER IS ISSUED PURSUANT TO: (Specify authority) THE CHANGES SET FORTH IN ITEM 14 ARE MADE IN THE CONTRACT ORDER NO. IN ITEM 10A.
	B. THE ABOVE NUMBERED CONTRACT/ORDER IS MODIFIED TO REFLECT ADMINISTRATIVE CHANGES (such as changes in paying office, appropriation date, etc.) SET FORTH IN ITEM 14, PURSUANT TO AUTHORITY OF FAR 43.103(b).
	C. THIS SUPPLEMENTAL AGREEMENT IS ENTERED INTO PURSUANT TO AUTHORITY OF:
	D. OTHER (Specify type of modification and authority)

~~**E. IMPORTANT:** Contractor ☐ is not, ☐ is required to sign this document and return copies to the issuing office.~~

14. DESCRIPTION OF AMENDMENT/MODIFICATION (Organized by UCF section headings, including solicitation/contract subject matter where feasible)
RED ROCK CHANNEL, CLARK COUNTY, NEVADA.

* Replace the following sections with the revised ones in this Amendment No. 0011:
Sections 00010, 00800, 01200, 01250, 02200, 02720, 02730, 05500

Except as provided herein, all terms and conditions of the document referenced in Item 9A or 10A, as heretofore changed, remains unchanged and in full force and effect.

15A. NAME AND TITLE OF SIGNER (Type or print)		16A. NAME AND TITLE OF CONTRACTING OFFICER (Type or print)	
15B. CONTRACTOR/OFFEROR (Signature of person authorized to sign)	15C. DATE SIGNED	16B. UNITED STATES OF AMERICA BY (Signature of Contracting Officer)	16C. DATE SIGNED

**RED ROCK CHANNEL, (HUALAPAI WAY TO SAHARA AVENUE), CLARK
COUNTY, NEVADA.**

IFB NO. DACW09-99-B-0010, Standard Form 30, Amendment #0011 (Continued)

Revised Sections

§ 00010, Bidding Schedule
§ 00800, Special Contract Requirements
§ 01200, General Requirements
§ 01250, Measurement and Payment
§ 02200, Excavation
§ 02720, Reinforced Concrete Pipe Stubouts
§ 02730, Manholes
§ 05500, Miscellaneous Metals

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SECTION 00010
 SUPPLIES OR SERVICES AND PRICES/COSTS

ITEM NO.	DESCRIPTION	QUANTITY	UNIT	UNIT PRICE	AMOUNT
0001	TRAFFIC CONTROL	1.00	JB	LS	\$ _____
0002	DIVERSION AND CONTROL OF WATER	1.00	JB	LS	\$ _____
0003	CLEAR SITE AND REMOVE OBSTRUCTIONS	1.00	JB	LS	\$ _____
0004	EXCAVATION	174,800.00	CY	\$ _____	\$ _____
0005	COMPACTED FILL	10,160.00	CY	\$ _____	\$ _____
0006	CONCRETE, INVERT	6,602.00	CY	\$ _____	\$ _____
0007	CONCRETE, SIDESLOPE	6,360.00	CY	\$ _____	\$ _____
0008	CONCRETE, CUT-OFF WALL	882.00	CY	\$ _____	\$ _____
0009	CONCRETE, WALLS	5,290.00	CY	\$ _____	\$ _____
0010	CONCRETE, TOP SLAB	942.00	CY	\$ _____	\$ _____
0011	CONCRETE APRONS	1.00	JB	LS	\$ _____
0012	CHANNEL TRANSITION STA. 17+00 TO STA. 19+35	1.00	JB	LS	\$ _____
0013	BOX CULVERT STA. 10+00 TO STA. 10+22	1.00	JB	LS	\$ _____
0014	BOX CULVERT STA. 32+00 TO STA. 33+70	1.00	JB	LS	\$ _____
0015	INVERT ACCESS RAMP STA. 41+66.47 TO STA. 43+18.68	1.00	JB	LS	\$ _____
0016	BOX CULVERT STA. 45+56.54 TO STA. 47+80.54	1.00	JB	LS	\$ _____
0017	BOX CULVERT STA. 50+00.05 TO STA. 50+50.05	1.00	JB	LS	\$ _____
0018	BOX CULVERT STA. 87+00 TO STA. 88+86.32	1.00	JB	LS	\$ _____
0019	BOX CULVERT STA. 129+98.96 TO STA. 145+15.00	1.00	JB	LS	\$ _____
0020	7' x 4' RCB STUB, STA. 45+24.70	1.00	JB	LS	\$ _____
0021	SIDE DRAIN, STA. 134+69.29 LT.	1.00	JB	LS	\$ _____
0022	SIDE DRAIN, STA. 137+05.00 LT.	1.00	JB	LS	\$ _____

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RED ROCK CHANNEL
HUALAPAI WAY TO SAHARA AVENUE

W99B0010

0023	REINFORCING STEEL	1,122.00	TN	\$ _____	\$ _____
0024	18" RCP, CLASS III	64.00	LF	\$ _____	\$ _____
0025	24" RCP, CLASS III	16.00	LF	\$ _____	\$ _____
0026	24" HDPE PIPE	10.00	LF	\$ _____	\$ _____
0027	48" TYPE I MANHOLE	4.00	EA	\$ _____	\$ _____
0028	60" TYPE I MANHOLE	1.00	EA	\$ _____	\$ _____
0029	ASPHALTIC CONCRETE PAVEMENT	3,865.00	TN	\$ _____	\$ _____
0030	AGGREGATE BASE COURSE	7,130.00	TN	\$ _____	\$ _____
0031	RIPRAP	1,660.00	TN	\$ _____	\$ _____
0032	WEEPHOLE SYSTEM	1.00	JB	LS	\$ _____
0033	NDOT TYPE "R" PEDESTRIAN RAIL (MODIFIED)	9,700.00	LF	\$ _____	\$ _____
0034	FLOW MONITORING STATION	1.00	JB	LS	\$ _____
0035	CHAIN LINK FENCE	9,620.00	LF	\$ _____	\$ _____
0036	DOUBLE SWING GATES	7.00	EA	\$ _____	\$ _____
0037	FENCE POST SLEEVES	1.00	JB	LS	\$ _____
0038	INVERT ACCESS LADDERS	1.00	JB	LS	\$ _____
0039	DETOUR @ SAHARA AVENUE	1.00	JB	LS	\$ _____
0040	REMOVE CIPCP/CMP AT SAHARA AVENUE	1.00	JB	LS	\$ _____
0041	PROTECTION OF EXISTING SANITARY SEWER LINE STA. 88+25.65	1.00	JB	LS	\$ _____
0042	PROTECTION OF UTILITIES @ TOWN CENTER DRIVE	1.00	JB	LS	\$ _____
0043	SOIL STABILIZER	18.60	AC	\$ _____	\$ _____

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SECTION 00800

SPECIAL CONTRACT REQUIREMENTS

1 52.211-10 COMMENCEMENT, PROSECUTION, AND COMPLETION OF WORK (APR 1984)

The Contractor shall be required to (a) commence work under this contract within 10 calendar days after the date the Contractor receives the Notice to Award, which constitutes the Notice to Proceed (b) prosecute the work diligently, and (c) complete the entire work ready for use not later than 330 calendar days after the contractor receives the Notice to Award, which constitutes the Notice to Proceed. The time stated for completion shall include final cleanup of the premises. The Contractor shall be required to achieve the following interim milestones:

(1) Complete all work from Station 10+00 to Station 10+22 within 60 days of Notice to Proceed.

(2) Complete all work from Station 45+56 to Station 47+80 within 90 calendar days of Notice to Proceed.

(3) Complete all work from Station 87+00 to Station 88+86 within 110 calendar days after Notice to Proceed.

Amd 11 (4) Complete all work from Station 131+50 to Station 139+48 by 15 April 2000.

SEE SECTION 01200 GENERAL REQUIREMENTS FOR DETAILS ASSOCIATED WITH COMPLETION OF WORK FOR THESE FOUR (4) AREAS.

(End of clause)

2 52.211-12 LIQUIDATED DAMAGES--CONSTRUCTION (APR 1984)

(a) If the Contractor fails to complete the work within the time specified in the contract, or any extension, the Contractor shall pay to the Government as liquidated damages, the sum of \$1,350.00 for each day of delay. If the Contractor fails to meet any of the interim milestone deadlines, the Contractor shall pay to the Government as liquidated damages, the sum of \$1,000 for each day of delay.

(b) If the Government terminates the Contractor's right to proceed, the resulting damage will consist of liquidated damages until such reasonable time as may be required for final completion of the work together with any increased costs occasioned the Government in completing the work.

(c) If the Government does not terminate the Contractor's right to proceed, the resulting damage will consist of liquidated damages until the work is completed or accepted.

(End of clause)

3 52.211-18 VARIATION IN ESTIMATED QUANTITY (APR 1984)

If the quantity of a unit-priced item in this contract is an estimated quantity and the actual quantity of the unit-priced item varies more than 15 percent above or below the estimated quantity, an equitable adjustment in the contract price shall be made upon demand of either party. The equitable adjustment shall be based upon any increase or decrease in costs due solely to the variation above 115 percent or below 85 percent of the estimated quantity. If the quantity variation is such as to cause an increase in the time necessary for completion, the Contractor may request, in writing, an extension of time, to be received by the Contracting Officer within 10 days from the beginning of the delay, or within such further period as may be granted by the Contracting Officer before the date of final settlement of the contract. Upon the receipt of a written request for an extension, the Contracting Officer shall ascertain the facts and make an adjustment for extending the completion date as, in the judgement of the Contracting Officer, is justified.

(End of clause)

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4 52.228-12 PROSPECTIVE SUBCONTRACTOR REQUESTS FOR BONDS (OCT 1995)

In accordance with Section 806(a)(3) of Pub. L. 102-190, as amended by Sections 2091 and 8105 of Pub. L. 103-355, upon the request of a prospective subcontractor or supplier offering to furnish labor or material for the performance of this contract for which a payment bond has been furnished to the Government pursuant to the Miller Act, the Contractor shall promptly provide a copy of such payment bond to the requester.

(End of clause)

5 52.228-14 IRREVOCABLE LETTER OF CREDIT (OCT 1997)

(a) "Irrevocable letter of credit" (ILC), as used in this clause, means a written commitment by a federally insured financial institution to pay all or part of a stated amount of money, until the expiration date of the letter, upon presentation by the Government (the beneficiary) of a written demand therefor. Neither the financial institution nor the offeror/Contractor can revoke or condition the letter of credit.

(b) If the offeror intends to use an ILC in lieu of a bid bond, or to secure other types of bonds such as performance and payment bonds, the letter of credit and letter of confirmation formats in paragraphs (e) and (f) of this clause shall be used.

(c) The letter of credit shall be irrevocable, shall require presentation of no document other than a written demand and the ILC (including confirming letter, if any), shall be issued/confirmed by an acceptable federally insured financial institution as provided in paragraph (d) of this clause, and--

(1) If used as a bid guarantee, the ILC shall expire no earlier than 60 days after the close of the bid acceptance period;

(2) If used as an alternative to corporate or individual sureties as security for a performance or payment bond, the offeror/Contractor may submit an ILC with an initial expiration date estimated to cover the entire period for which financial security is required or may submit an ILC with an initial expiration date that is a minimum period of one year from the date of issuance. The ILC shall provide that, unless the issuer provides the beneficiary written notice of non-renewal at least 60 days in advance of the current expiration date, the ILC is automatically extended without amendment for one year from the expiration date, or any future expiration date, until the period of required coverage is completed and the Contracting Officer provides the financial institution with a written statement waiving the right to payment. The period of required coverage shall be:

(i) For contracts subject to the Miller Act, the later of --

(A) One year following the expected date of final payment;

(B) For performance bonds only, until completion of any warranty period; or

(C) For payment bonds only, until resolution of all claims filed against the payment bond during the one-year period following final payment.

(ii) For contracts not subject to the Miller Act, the later of --

(A) 90 days following final payment; or

(B) For performance bonds only, until completion of any warranty period.

(d) Only federally insured financial institutions rated investment grade or higher shall issue or confirm the ILC. The offeror/Contractor shall provide the Contracting Officer a credit rating that indicates the financial institution has the required rating(s) as of the date of issuance of the ILC. Unless the financial institution issuing the ILC had letter of credit business of at least \$25 million in the past year, ILCs over \$5 million must be confirmed by another acceptable financial institution that had letter of credit business of at least \$25 million in the past year.

(e) The following format shall be used by the issuing financial institution to create an ILC:

(Issuing Financial Institution's Letterhead or Name and Address)

Issue Date _____

Irrevocable Letter of Credit No. _____

Account party's name _____

Account party's address _____

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For Solicitation No. _____

(For reference only)

TO: (U.S. Government agency)

(U.S. Government agency's address)

1. We hereby establish this irrevocable and transferable Letter of Credit in your favor for one or more drawings up to United States \$_____. This Letter of Credit is payable at (issuing financial institution's and, if any, confirming financial institution's) office at (issuing financial institution's address and, if any, confirming financial institution's address) and expires with our close of business on _____, or any automatically extended expiration date.

2. We hereby undertake to honor your or the transferee's sight draft(s) drawn on the issuing or, if any, the confirming financial institution, for all or any part of this credit if presented with this Letter of Credit and confirmation, if any, at the office specified in paragraph 1 of this Letter of Credit on or before the expiration date or any automatically extended expiration date.

3. (This paragraph is omitted if used as a bid guarantee, and subsequent paragraphs are renumbered.) It is a condition of this Letter of Credit that it is deemed to be automatically extended without amendment for one year from the expiration date hereof, or any future expiration date, unless at least 60 days prior to any expiration date, we notify you or the transferee by registered mail, or other receipted means of delivery, that we elect not to consider this Letter of Credit renewed for any such additional period. At the time we notify you, we also agree to notify the account party (and confirming financial institution, if any) by the same means of delivery.

4. This Letter of Credit is transferable. Transfers and assignments of proceeds are to be effected without charge to either the beneficiary or the transferee/assignee of proceeds. Such transfer or assignment shall be only at the written direction of the Government (the beneficiary) in a form satisfactory to the issuing financial institution and the confirming financial institution, if any.

5. This Letter of Credit is subject to the Uniform Customs and Practice (UCP) for Documentary Credits, 1993 Revision, International Chamber of Commerce Publication No. 500, and to the extent not inconsistent therewith, to the laws of _____ (state of confirming financial institution, if any, otherwise state of issuing financial institution).

6. If this credit expires during an interruption of business of this financial institution as described in Article 17 of the UCP, the financial institution specifically agrees to effect payment if this credit is drawn against within 30 days after the resumption of our business.

Sincerely,

(Issuing financial institution)

(f) The following format shall be used by the financial institution to confirm an ILC:

(Confirming Financial Institution's Letterhead or Name and Address)

Date _____ 19_____

Our Letter of Credit Advice Number _____

Beneficiary: _____

(U.S. Government agency)

Issuing Financial Institution: _____

Issuing Financial Institution's LC No. : _____

Gentlemen:

1. We hereby confirm the above indicated Letter of Credit, the original of which is attached, issued by _____ (name of issuing financial institution) for drawings of up to United States dollars _____/U.S. \$_____ and expiring with our close of business on _____ (the expiration date), or any automatically extended expiration date.

2. Draft(s) drawn under the Letter of Credit and this Confirmation are payable at our office located at _____.

3. We hereby undertake to honor sight draft(s) drawn under and presented with the Letter of Credit and this Confirmation at our offices as specified herein.

4. (This paragraph is omitted if used as a bid guarantee, and subsequent paragraphs are renumbered.) It is a condition of this confirmation that it be deemed automatically extended without amendment

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for one year from the expiration date hereof, or any automatically extended expiration date, unless:

(a) At least 60 days prior to any such expiration date, we shall notify the Contracting Officer, or the transferee and the issuing financial institution, by registered mail or other receipted means of delivery, that we elect not to consider this confirmation extended for any such additional period; or

(b) The issuing financial institution shall have exercised its right to notify you or the transferee, the account party, and ourselves, of its election not to extend the expiration date of the Letter of Credit.

5. This confirmation is subject to the Uniform Customs and Practice (UCP) for Documentary Credits, 1993 Revision, International Chamber of Commerce Publication No. 500, and to the extent not inconsistent therewith, to the laws of _____ (state of confirming financial institution).

6. If this confirmation expires during an interruption of business of this financial institution as described in Article 17 of the UCP, we specifically agree to effect payment if this credit is drawn against within 30 days after the resumption of our business.

Sincerely,

(Confirming financial institution)

(g) The following format shall be used by the Contracting Officer for a sight draft to draw on the Letter of Credit:

SIGHT DRAFT

(City, State)

_____, 19____

(Name and address of financial institution)

Pay to the order of _____

(Beneficiary Agency)

the sum of United States \$ _____

This draft is drawn under _____

Irrevocable Letter of Credit No. _____

By: _____

(Beneficiary Agency)

(End of clause)

6 52.228-15 Performance and Payment Bonds--Construction (SEP 1996)

(a) Definitions. As used in this clause--

Contract price means the award price of the contract or, for requirements contracts, the price payable for the estimated quantity; or for indefinite-delivery type contracts, the price payable for the specified minimum quantity.

(b) Unless the resulting contract price is \$100,000 or less, the successful offeror shall be required to furnish performance and payment bonds to the Contracting Officer as follows:

(1) Performance Bonds (Standard Form 25):

(i) The penal amount of performance bonds shall be 100 percent of the original contract price.

(ii) The Government may require additional performance bond protection when the contract price is increased. The increase in protection shall generally equal 100 percent of the increase in contract price.

(iii) The Government may secure additional protection by directing the Contractor to increase the penal amount of the existing bond or to obtain an additional bond.

(2) Payment Bonds (Standard Form 25-A):

(i) The penal amount of payment bonds shall equal--

(A) 50 percent of the contract price if the contract price is not more than \$1 million;

(B) 40 percent of the contract price if the contract price is more than \$1 million but not more than \$5 million; or

(C) \$2.5 million if the contract price is more than \$5 million.

(ii) If the original contract price is \$5 million or less, the Government may require additional protection if the contract price is

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increased. The penal amount of the total protection shall meet the requirement of subparagraph (b)(2)(i) of this clause.

(iii) The Government may secure additional protection by directing the Contractor to increase the penal sum of the existing bond or to obtain an additional bond.

(c) The Contractor shall furnish all executed bonds, including any necessary reinsurance agreements, to the Contracting Officer, within the time period specified in the Bid Guarantee provision of the solicitation, or otherwise specified by the Contracting Officer, but in any event, before starting work.

(d) The bonds shall be in the form of firm commitment, supported by corporate sureties whose names appear on the list contained in Treasury Department Circular 570, individual sureties, or by other acceptable security such as postal money order, certified check, cashier's check, irrevocable letter of credit, or, in accordance with Treasury Department regulations, certain bonds or notes of the United States. Treasury Circular 570 is published in the Federal Register, or may be obtained from the U.S. Department of Treasury, Financial Management Service, Surety Bond Branch, 401 14th Street, NW., 2nd Floor, West Wing, Washington, DC 20227.

(End of clause)

7 52.232-33 PAYMENT BY ELECTRONIC FUNDS TRANSFER--CENTRAL CONTRACTOR REGISTRATION
(MAY 1999)

(a) Method of payment. (1) All payments by the Government under this contract shall be made by electronic funds transfer (EFT), except as provided in paragraph (a)(2) of this clause. As used in this clause, the term "EFT" refers to the funds transfer and may also include the payment information transfer.

(2) In the event the Government is unable to release one or more payments by EFT, the Contractor agrees to either--

(i) Accept payment by check or some other mutually agreeable method of payment; or

(ii) Request the Government to extend the payment due date until such time as the Government can make payment by EFT (but see paragraph (d) of this clause).

(b) Contractor's EFT information. The Government shall make payment to the Contractor using the EFT information contained in the Central Contractor Registration (CCR) database. In the event that the EFT information changes, the Contractor shall be responsible for providing the updated information to the CCR database.

(c) Mechanisms for EFT payment. The Government may make payment by EFT through either the Automated Clearing House (ACH) network, subject to the rules of the National Automated Clearing House Association, or the Fedwire Transfer System. The rules governing Federal payments through the ACH are contained in 31 CFR part 210.

(d) Suspension of payment. If the Contractor's EFT information in the CCR database is incorrect, then the Government need not make payment to the Contractor under this contract until correct EFT information is entered into the CCR database; and any invoice or contract financing request shall be deemed not to be a proper invoice for the purpose of prompt payment under this contract. The prompt payment terms of the contract regarding notice of an improper invoice and delays in accrual of interest penalties apply.

(e) Contractor EFT arrangements. If the Contractor has identified multiple payment receiving points (i.e., more than one remittance address and/or EFT information set) in the CCR database, and the Contractor has not notified the Government of the payment receiving point applicable to this contract, the Government shall make payment to the first payment receiving point (EFT information set or remittance address as applicable) listed in the CCR database.

(f) Liability for uncompleted or erroneous transfers. (1) If an uncompleted or erroneous transfer occurs because the Government used the Contractor's EFT information incorrectly, the Government remains responsible for--

(i) Making a correct payment;

(ii) Paying any prompt payment penalty due; and

(iii) Recovering any erroneously directed funds.

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(2) If an uncompleted or erroneous transfer occurs because the Contractor's EFT information was incorrect, or was revised within 30 days of Government release of the EFT payment transaction instruction to the Federal Reserve System, and--

(i) If the funds are no longer under the control of the payment office, the Government is deemed to have made payment and the Contractor is responsible for recovery of any erroneously directed funds; or

(ii) If the funds remain under the control of the payment office, the Government shall not make payment, and the provisions of paragraph (d) of this clause shall apply.

(g) EFT and prompt payment. A payment shall be deemed to have been made in a timely manner in accordance with the prompt payment terms of this contract if, in the EFT payment transaction instruction released to the Federal Reserve System, the date specified for settlement of the payment is on or before the prompt payment due date, provided the specified payment date is a valid date under the rules of the Federal Reserve System.

(h) EFT and assignment of claims. If the Contractor assigns the proceeds of this contract as provided for in the assignment of claims terms of this contract, the Contractor shall require as a condition of any such assignment, that the assignee shall register in the CCR database and shall be paid by EFT in accordance with the terms of this clause. In all respects, the requirements of this clause shall apply to the assignee as if it were the Contractor. EFT information that shows the ultimate recipient of the transfer to be other than the Contractor, in the absence of a proper assignment of claims acceptable to the Government, is incorrect EFT information within the meaning of paragraph (d) of this clause.

(i) Liability for change of EFT information by financial agent. The Government is not liable for errors resulting from changes to EFT information made by the Contractor's financial agent.

(j) Payment information. The payment or disbursing office shall forward to the Contractor available payment information that is suitable for transmission as of the date of release of the EFT instruction to the Federal Reserve System. The Government may request the Contractor to designate a desired format and method(s) for delivery of payment information from a list of formats and methods the payment office is capable of executing. However, the Government does not guarantee that any particular format or method of delivery is available at any particular payment office and retains the latitude to use the format and delivery method most convenient to the Government. If the Government makes payment by check in accordance with paragraph (a) of this clause, the Government shall mail the payment information to the remittance address contained in the CCR database.

(End of Clause)

8 52.236-1 PERFORMANCE OF WORK BY THE CONTRACTOR (APR 1984)

The Contractor shall perform on the site, and with its own organization, work equivalent to at least 35% percent of the total amount of work to be performed under the contract. This percentage may be reduced by a supplemental agreement to this contract if, during performing the work, the Contractor requests a reduction and the Contracting Officer determines that the reduction would be to the advantage of the Government.

(End of clause)

(R 7-603.15 1965 JAN)

(R 1-18.104)

9 52.236-4 PHYSICAL DATA (APR 1984)

Data and information furnished or referred to below is for the Contractor's information. The Government shall not be responsible for any interpretation of or conclusion drawn from the data or information by the Contractor.

(a) The indications of physical conditions on the drawings and in the

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specifications are the result of site investigations by
Surveys, Auger Borings and Test Borings.

(b) Weather conditions - the contractor shall satisfy himself as to the hazards likely to arise from weather conditions.

(c) Transportation facilities - the contractor shall make his own investigation of the conditions of existing public and private roads clearances, restrictions, bridge load limits and other limitations affecting transportation and ingress and egress at the site of the work. It shall be the contractor's responsibility to construct and maintain, at the contractor's expense, any haul roads required for construction operations.

(d) N/A

(End of clause)

(R 7-603.25 1965 JAN)

10 52.236-16 I QUANTITY SURVEYS (APR 1984)--ALTERNATE I (APR 1984)

(a) Quantity surveys shall be conducted, and the data derived from these surveys shall be used in computing the quantities of work performed and the actual construction completed and in place.

(b) The Contractor shall conduct the original and final surveys and surveys for any periods for which progress payments are requested. All these surveys shall be conducted under the direction of a representative of the Contracting Officer, unless the Contracting Officer waives this requirement in a specific instance. The Government shall make such computations as are necessary to determine the quantities of work performed or finally in place. The Contractor shall make the computations based on the surveys for any periods for which progress payments are requested.

(c) Promptly upon completing a survey, the Contractor shall furnish the originals of all field notes and all other records relating to the survey or to the layout of the work to the Contracting Officer, who shall use them as necessary to determine the amount of progress payments. The Contractor shall retain copies of all such material furnished to the Contracting Officer.

(End of clause)

(R 7-603.50(a) 1979 MAR)

(R 7-603.50(b) 1979 MAR)

11 52.236-21 SPECIFICATIONS AND DRAWINGS FOR CONSTRUCTION (FEB 1997)

(a) The Contractor shall keep on the work site a copy of the drawings and specifications and shall at all times give the Contracting Officer access thereto. Anything mentioned in the specifications and not shown on the drawings, or shown on the drawings and not mentioned in the specifications, shall be of like effect as if shown or mentioned in both. In case of difference between drawings and specifications, the specifications shall govern. In case of discrepancy in the figures, in the drawings, or in the specifications, the matter shall be promptly submitted to the Contracting Officer, who shall promptly make a determination in writing. Any adjustment by the Contractor without such a determination shall be at its own risk and expense. The Contracting Officer shall furnish from time to time such detailed drawings and other information as considered necessary, unless otherwise provided.

(b) Wherever in the specifications or upon the drawings the words "directed", "required", "ordered", "designated", "prescribed", or words of like import are used, it shall be understood that the "direction", "requirement", "order", "designation", or "prescription", of the Contracting Officer is intended and similarly the words "approved", "acceptable", "satisfactory", or words of like import shall mean "approved by", or "acceptable to", or "satisfactory to" the Contracting Officer, unless otherwise expressly stated.

(c) Where "as shown", "as indicated", "as detailed", or words of similar import are used, it shall be understood that the reference is made to the drawings accompanying this contract unless stated otherwise. The word "provided" as used herein shall be understood to mean "provide complete in place," that is "furnished and installed".

(d) Shop drawings means drawings, submitted to the Government by the Contractor, subcontractor, or any lower tier subcontractor pursuant to a

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construction contract, showing in detail (1) the proposed fabrication and assembly of structural elements, and (2) the installation (i.e., fit, and attachment details) of materials or equipment. It includes drawings, diagrams, layouts, schematics, descriptive literature, illustrations, schedules, performance and test data, and similar materials furnished by the contractor to explain in detail specific portions of the work required by the contract. The Government may duplicate, use, and disclose in any manner and for any purpose shop drawings delivered under this contract.

(e) If this contract requires shop drawings, the Contractor shall coordinate all such drawings, and review them for accuracy, completeness, and compliance with contract requirements and shall indicate its approval thereon as evidence of such coordination and review. Shop drawings submitted to the Contracting Officer without evidence of the Contractor's approval may be returned for resubmission. The Contracting Officer will indicate an approval or disapproval of the shop drawings and if not approved as submitted shall indicate the Government's reasons therefor. Any work done before such approval shall be at the Contractor's risk. Approval by the Contracting Officer shall not relieve the Contractor from responsibility for any errors or omissions in such drawings, nor from responsibility for complying with the requirements of this contract, except with respect to variations described and approved in accordance with (f) below.

(f) If shop drawings show variations from the contract requirements, the Contractor shall describe such variations in writing, separate from the drawings, at the time of submission. If the Contracting Officer approves any such variation, the Contracting Officer shall issue an appropriate contract modification, except that, if the variation is minor or does not involve a change in price or in time of performance, a modification need not be issued.

(g) The Contractor shall submit to the Contracting Officer for approval four copies (unless otherwise indicated) of all shop drawings as called for under the various headings of these specifications. Three sets (unless otherwise indicated) of all shop drawings, will be retained by the Contracting Officer and one set will be returned to the Contractor.

(End of clause)

12 52.236-7001 CONTRACT DRAWINGS, MAPS, AND SPECIFICATIONS (DEC 1991)

(a) The Government--

(1) Will provide the Contractor, without charge, Five CD-ROMS (unless otherwise specified) containing contract drawings and specifications except publications incorporated into the technical provisions by reference;

(2) Will furnish additional CD-ROMS on request, for the cost of reproduction; and

(b) The Contractor shall--

(1) Check all drawings furnished immediately upon receipt ;

(2) Compare all drawings and verify the figures before laying out the work;

(3) Promptly notify the Contracting Officer of any discrepancies; and

(4) Be responsible for any errors which might have been avoided by complying with this paragraph (b).

(c) Large scale drawings shall, in general, govern small scale drawings. Figures marked on drawings shall, in general, be followed in preference to scale measurements.

(d) Omissions from the drawings or specifications or the misdescription of details of work which are manifestly necessary to carry out the intent of the drawings and specifications, or which are customarily performed, shall not relieve the Contractor from performing such omitted or misdescribed details of the work, but shall be performed as if fully and correctly set forth and described in the drawings and specifications.

(e) The work shall conform to the specifications and the contract drawings identified on the following index of drawings:

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(End of clause)

13 52.247-7023 TRANSPORTATION OF SUPPLIES BY SEA (NOV 1995)

(a) Definitions. As used in this clause--

(1) "Components" means articles, materials, and supplies incorporated directly into end products at any level of manufacture, fabrication, or assembly by the Contractor or any subcontractor.

(2) "Department of Defense (DoD)" means the Army, Navy, Air Force, Marine Corps, and defense agencies.

(3) "Foreign flag vessel" means any vessel that is not a U.S.-flag vessel.

(4) "Ocean transportation" means any transportation aboard a ship, vessel, boat, barge, or ferry through international waters.

(5) "Subcontractor" means a supplier, materialman, distributor, or vendor at any level below the prime contractor whose contractual obligation to perform results from, or is conditioned upon, award of the prime contract and who is performing any part of the work or other requirement of the prime contract. However, effective May 1, 1996, the term does not include a supplier, materialman, distributor, or vendor of commercial items or commercial components.

(6) "Supplies" means all property, except land and interests in land, that is clearly identifiable for eventual use by or owned by the DoD at the time of transportation by sea.

(i) An item is clearly identifiable for eventual use by the DoD if, for example, the contract documentation contains a reference to a DoD contract number or a military destination.

(ii) Supplies includes (but is not limited to) public works; buildings and facilities; ships; floating equipment and vessels of every character, type, and description, with parts, subassemblies, accessories, and equipment; machine tools; material; equipment; stores of all kinds; end items; construction materials; and components of the foregoing.

(7) "U.S.-flag vessel" means a vessel of the United States or belonging to the United States, including any vessel registered or having national status under the laws of the United States.

(b) The Contractor shall employ U.S.-flag vessels in the transportation by sea of any supplies to be furnished in the performance of this contract. The Contractor and its subcontractors may request that the Contracting Officer authorize shipment in foreign-flag vessels, or designate available U.S.-flag vessels, if the Contractor or a subcontractor believes that --

(1) U.S.-flag vessels are not available for timely shipment;

(2) The freight charges are inordinately excessive or unreasonable; or

(3) Freight charges are higher than charges to private persons for transportation of like goods.

(c) The Contractor must submit any request for use of other than U.S.-flag vessels in writing to the Contracting Officer at least 45 days prior to the sailing date necessary to meet its delivery schedules. The

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Contracting Officer will process requests submitted after such date(s) as expeditiously as possible, but the Contracting Officer's failure to grant approvals to meet the shipper's sailing date will not of itself constitute a compensable delay under this or any other clause of this contract.

Requests shall contain at a minimum--

- (1) Type, weight, and cube of cargo;
- (2) Required shipping date;
- (3) Special handling and discharge requirements;
- (4) Loading and discharge points;
- (5) Name of shipper and consignee;
- (6) Prime contract number; and
- (7) A documented description of efforts made to secure U.S. -flag vessels, including points of contact (with names and telephone numbers) with at least two U.S.-flag carriers contacted. Copies of telephone notes, telegraphic and facsimile message or letters will be sufficient for this purpose.

(d) The Contractor shall, within 30 days after each shipment covered by this clause, provide the Contracting Officer and the Division of National Cargo, Office of Market Development, Maritime Administration, U.S. Department of Transportation, Washington, DC 20590, one copy of the rated on board vessel operating carrier's ocean bill of lading, which shall contain the following information--

- (1) Prime contract number;
- (2) Name of vessel;
- (3) Vessel flag of registry;
- (4) Date of loading;
- (5) Port of loading;
- (6) Port of final discharge;
- (7) Description of commodity;
- (8) Gross weight in pounds and cubic feet if available;
- (9) Total ocean freight in U.S. dollars; and
- (10) Name of the steamship company.

(e) The Contractor agrees to provide with its final invoice under this contract a representation that to the best of its knowledge and belief --

- (1) No ocean transportation was used in the performance of this contract;
- (2) Ocean transportation was used and only U.S. -flag vessels were used for all ocean shipments under the contract;
- (3) Ocean transportation was used, and the Contractor had the written consent of the Contracting Officer for all non-U.S.-flag ocean transportation; or
- (4) Ocean transportation was used and some or all of the shipments were made on non-U.S.-flag vessels without the written consent of the Contracting Officer. The Contractor shall describe these shipments in the following format:

	Item Description	Contract Line Items	Quantity
Total.....			

(f) If the final invoice does not include the required representation, the Government will reject and return it to the Contractor as an improper invoice for the purposes of the Prompt Payment clause of this contract. In the event there has been unauthorized use of non-U.S.-flag vessels in the performance of this contract, the Contracting Officer is entitled to equitably adjust the contract, based on the unauthorized use.

(g) The Contractor shall include this clause, including this paragraph (g) in all subcontracts under this contract, which exceed the simplified acquisition threshold in Part 13 of the Federal Acquisition Regulation.

(End of clause)

14 52.1-4001 CONTRACT ADMINISTRATION DATA

The Contract Administration Office for this contract subsequent to award is:

Department of the Army

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Los Angeles District, Corps of Engineers
P.O. Box 532711
Los Angeles, California 90053-2325
ATTN: Ms. Tina Davis-Frazier
Telephone No: Area Code (213) 452-3252

Payment will be made by:

USACE Finance Center
ATTN: CEFC-AO-P
5270 Integrity Drive
Millington, TN 38054-5005

Submit Invoices to:

Please refer to Block No. 26 of SF 1442, Solicitation, Offer and Award,
which will be completed at time of contract award.

15 52.231-4001 EQUIPMENT OWNERSHIP AND OPERATING EXPENSE SCHEDULE (MAR 1995)
EFARS 52-231-5000

(a) Allowable costs for construction and marine plant and equipment in sound workable condition owned or controlled and furnished by a contractor or subcontractor at any tier shall be based on actual cost data for each piece of equipment or groups of similar serial and series for which the Government can determine both ownership and operating costs from the contractor's accounting records. When both ownership and operating costs cannot be determined for any piece of equipment or groups of similar serial or series equipment from the contractor's accounting records, costs for that equipment shall be based upon the applicable provisions of EP 1110-1-8, "Construction Equipment Ownership and Operating Expense Schedule," Region VII. Working conditions shall be considered to be average for determining equipment rates using the formula provided in the schedule. For forward pricing, the schedule in effect at the time of negotiations shall apply. For retrospective pricing, the schedule in effect at the time the work was performed shall apply.

(b) Equipment rental costs are allowable, subject to the provisions of FAR 31.105(d)(ii) and FAR 31.205-36 substantiated by certified copies of paid invoices. Rates for equipment rented from an organization under common control, lease-purchase or sale-leaseback arrangements will be determined using the schedule except that rental costs leased from an organization under common control that has an established practice of leasing the same or similar equipment to unaffiliated lessees are allowable. Costs for major repairs and overhaul are unallowable.

(c) When actual equipment costs are proposed and the total amount of the pricing action is over \$25,000, cost or pricing data shall be submitted on Standard Form 1411, "Contract Pricing Proposal Cover Sheet." By submitting cost or pricing data, the contractor grants to the contracting officer or an authorizing representative the right to examine those books, records, documents and other supporting data that will permit evaluation of the proposed equipment costs. After price agreement the contractor shall certify that the equipment costs of pricing data submitted are accurate, complete and current.

(End of clause)

Amd 10 16 52.232-4001 CONTINUING CONTRACTS (ALTERNATE) (MAR 1995) EFARS 52-232-5002

(a) Funds are not available at the inception of this contract to cover the entire contract price. The sum of \$200,000.00 has been reserved for this contract and is available for payment to the contractor during the current fiscal year. It is expected that Congress will make appropriations for future fiscal years from which additional funds, together with funds provided by one or more non-federal project sponsors will be reserved for this contract. The liability of the United States for payment beyond the funds reserved for this contract is contingent on the reservation of additional funds.

(b) Failure to make payment in excess of the amount currently reserved, or that may be reserved from time to time, shall not be considered a breach of this contract, and shall not entitle the contractor to a price adjustment under the terms of this contract except

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as specifically provided in paragraphs (e) and (h) below.

(c) The Government may at any time reserve additional funds for payments under the contract if there are funds available for such purpose. The contracting officer will promptly notify the contractor of any additional funds reserved for the contract by issuing and administrative modification to the contract.

(d) If earnings will be such that funds reserved for the contract will be exhausted before the end of any fiscal year, the contractor shall give written notice to the contracting officer of the estimated date of exhaustion and of additional funds which will be needed to meet payments due or to become due under this contract during that fiscal year. This notice shall be given not less than 45 nor more than 60 days prior to the estimated date of exhaustion.

(e) No payments will be made after exhaustion of funds except to the extent that additional funds are reserved for the contract. If and when sufficient additional funds are reserved, the contractor shall be entitled to simple interest on any payment that the contracting officer determines was actually earned under the terms of this contract and would have been made except for exhaustion of funds. Interest shall be computed from the time such payment would otherwise have been made until actually or constructively made, and shall be at the rate established by the Secretary of the Treasury pursuant to Public Law 92-41, 85 Stat 97, as in effect on the first day of the delay in such payment.

(f) Any suspension, delay, or interruption of work arising from exhaustion or anticipated exhaustion of funds shall not constitute a breach of this contract and shall not entitle the contractor to any price adjustment under a "Suspension of Work" or similar clause or in any other manner under this contract.

(g) An equitable adjustment in performance time shall be made for any increase in the time required for performance of any part of the work arising from exhaustion of funds or the reasonable anticipation of exhaustion of funds.

(h) If, upon the expiration of sixty (60) days after the beginning of the fiscal year following an exhaustion of funds, the Government has failed to reserve sufficient additional funds to cover payments otherwise due, the contractor, by written notice delivered to the contracting officer at any time before such additional funds are reserved, may elect to treat his right to proceed with the work as having been terminated. Such a termination shall be at no cost to the Government, except that, to the extent that additional funds to make payment therefore are allocated to this contract, it may be treated as a termination for the convenience of the Government.

(i) If at any time it becomes apparent that the funds reserved for any fiscal year are in excess of the funds required to meet all payments due or to become due the contractor because of work performed and to be performed under this contract during the fiscal year, the Government reserves the right, after notice to the contractor, to reduce said reservation by the amount of such excess.

(j) The term "Reservation" means monies that have been set aside and made available for payments under this contract.

(End of clause)

17 52.236-4001 PLANT AND MATERIAL REMOVAL AFTER CONTRACT TERMINATION (MAR 1996)
EFARS 52.236-5000

Should this contract be terminated as provided in clause 52.232-5001 because of the failure of Congress to provide additional funds for its completion, the contractor may be permitted to remove plant and material on which payments for preparatory work have been made, subject to an equitable deduction from the amounts due the contractor to reimburse the United States for the unabsorbed value of such plant and material.

(End of clause)

18 52.239-4001 YEAR 2000 COMPLIANCE FOR CONSTRUCTION CONTRACTS

a. In accordance with FAR 39.106, the contractor shall ensure that with respect to any design, construction, goods, or services under this

contract as well as any subsequent task/delivery orders issued under this contract (if applicable) all information technology contained therein shall be Year 2000 compliant. Specifically:

b. The contractor shall:

(1) Perform, maintain, and provide an inventory of all major components to include structures, equipment, items, parts, and furnishings under this contract and each task/delivery order which may be affected by the Y2K compliance requirement.

(2) Indicate whether each component is currently Year 2000 compliant or requires an upgrade for compliance prior to Government acceptance.

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19 52.249-4001 BASIS FOR SETTLEMENT OF PROPOSALS EFARS 52.249-5000

Actual costs will be used to determine equipment costs for a settlement proposal submitted on the total cost basis under FAR 49.206-2(b). In evaluating a terminations settlement proposal using the total costs basis, the following principals will be applied to determine allowable equipment costs:

(1) Actual costs for each piece of equipment, or groups of similar serial or series equipment, need not be available in the contractor's accounting records to determine total actual equipment costs.

(2) If equipment costs have been allocated to a contract using predetermined rates, those charges will be adjusted to actual costs.

(3) Recorded job costs adjusted for unallowable and unallowable expenses will be used to determine equipment operating expenses.

(4) Ownership costs (depreciation) will be determined using the contractor's depreciation schedule (subject to the provisions of FAR 31.205-11).

(5) License, taxes, storage and insurance costs are normally recovered as an indirect expense and unless the contractor charges these costs directly to contracts, they will be recovered through the indirect expense rate.

(End of Statement)

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SECTION 01200

GENERAL REQUIREMENTS

PART 1 GENERAL

1.1 REFERENCES

The publications listed below form a part of this specification to the extent referenced. The publications are referred to in the text by basic designation only.

DEPARTMENT OF COMMERCE (DOC)

DOC PS 1 (1983) Construction and Industrial Plywood

FEDERAL SPECIFICATIONS (FS)

FS FF-B-575 (Rev C) Bolts, Hexagon and Square

FS FF-N-105 (Rev B; Am 3, Int Am 4; Notice 1) Nails, Brads, Staples and Spikes: Wire, Cut and Wrought

FS FF-N-836 (Rev D; Am 2) Nut, Square, Hexagon, Cap, Slotted, Castle, Knurled, Welding and Single Ball Seat

FS MM-L-751 (Rev H) Lumber; Softwood

FS TT-P-1510 (Rev A, Am 1) Paint, Latex, Exterior for Wood Surfaces, White and Tints

FS TT-P-001984 (Basic) Primer Coating, Latex Base, Exterior (Undercoat for Wood), White and Tints

1.2 PROJECT FACILITIES

The Contractor shall construct and/or erect the following project facilities as soon as possible and not less than 15 calendar days after notice to proceed.

1.2.1 Construction Signs

The signs shall include the following:

- a. Project Signs: One Project Sign at location designated by the Contracting Officer.
- b. Warning Signs: Facing approaching traffic on all haul roads crossing under overhead power transmission lines.
- c. Hard Hat Signs: Ten hard hat signs at locations directed.

1.2.2 Bulletin Board

Bulletin board shall be erected at the Contractor's office.

1.2.3 Sanitary Facilities

Suitable sanitary facilities shall be provided and maintained by the Contractor.

PART 2 PRODUCTS

2.1 CONSTRUCTION SIGNS

2.1.1 Materials

2.1.1.1 Lumber

FS MM-L-751, and shall be seasoned Douglas Fir, S4S, Grade D or better except that posts, braces and spacers shall be construction Grade (WCLB).

2.1.1.2 Plywood

DOC PS 1, grade A-C, Group 1, exterior type.

2.1.1.3 Bolts, Nuts and Nails

Bolts shall conform to FS FF-B-575, nuts shall conform to FS FF-N-836, and nails shall conform to FS FF-N-105.

2.1.1.4 Paints and Oils

Paints shall conform to FS TT-P-001984 for primer and FS TT-E-1510 for finish paint and lettering.

PART 3 EXECUTION

3.1 CONSTRUCTION OF SIGNS

3.1.1 Project and Hard Hat Signs

Constructed as detailed in Figures 1, 1A, 2, 3 and Safety Signs. Decals signs will be furnished by the Contracting Officer.

3.1.2 Warning Signs

Constructed of plywood not less than 1/2 inch thick and shall be securely bolted to the supports with the bottom of the sign face 3 feet above the ground. The sign face shall be 24 in. x 48 in., all letters shall be 4 in. in height, and the wording shall be: "WARNING: OVERHEAD TRANSMISSION LINES."

3.2 PAINTING SIGNS

All exposed surfaces and edges of plywood shall be given one coat of linseed oil and be wiped prior to applying primer. All exposed surfaces of signs and supports shall be given one coat of primer and 2 finish coats of white paint. Except as otherwise indicated, lettering on all signs shall be black and sized as indicated.

3.3 PROJECT ENGINEERS'S OFFICE EQUIPMENT

Contractor shall provide computer software (3.5" floppy disc size) to the Contracting Officer for the type of scheduling system to be used and

quantity/fill programs for tracking or estimating bid quantities during construction. Scheduling software must be capable of downloading completely to the COE Standard Data Exchange Format. The Contractor shall utilize a hand held radio system for communication between the Contractor's quality control representative and the Government's quality assurance representative. Radio equipment for the Governments use shall include a hand held radio, two batteries and one charger. The Contractor shall provide Government personnel with the following equipment for the duration of the contract: 1 Cellular telephone with voice mail, 2 nickel cadmium batteries, 1 desk top charger, 1 travel charger, and 400 minutes of air time per month or portion thereof.

3.4 BULLETIN BOARD

A weatherproof bulletin board, approximately 36 inches wide and 30 inches high, with hinged glass door shall be provided adjacent to or mounted on the Contractor's project office. If adjacent to the office, the bulletin board shall be securely mounted on no less than 2 posts. Bulletin board and posts shall be painted or have other approved factory finish. The bulletin board shall be easily accessible at all times and shall contain wage rates, equal opportunity notice, and such other items required to be posted.

3.5 MAINTENANCE AND DISPOSAL OF PROJECT FACILITIES

The Contractor shall maintain the project facilities in good condition throughout the life of the project. Upon completion of work under this contract, the facilities covered under this section will remain the property of the Contractor and shall be removed from the site at his expense.

3.6 UNSATISFACTORY AND SCRAP MATERIAL

Materials characterized as unsatisfactory soil in accordance with Section 02200 EXCAVATION and materials indicated to be removed and not indicated to be salvaged, stored or reinstalled are designated as scrap shall become the property of the Contractor and be removed from the site of work. The Contractor by signing this contract hereby acknowledges that he made due allowance for value, if any, of such scrap in the contract price.

3.7 ARCHAEOLOGICAL FINDINGS DURING CONSTRUCTION

Should the Contractor or any of his employees in the performance of this contract find or uncover any archaeological remains, he shall notify the Project Engineer immediately. Such notifications will be a brief statement in writing giving the location and nature of the findings. Should the discovery site require archaeological studies resulting in delays and/or additional work, the Contractor will be compensated by an equitable adjustment under the CONTRACT CLAUSES of the contract.

3.8 PROTECTION OF EXISTING WORK

Before beginning any cutting or removal work, the Contractor shall carefully survey the existing work and examine the drawings and specifications to determine the extent of the work. The Contractor shall take all necessary precautions to insure against damage to such work to remain in place, to be

reused, or to remain the property of the Government, and any damage to such work shall be repaired or replaced as approved by the Contracting Officer at no additional cost to the Government. The Contractor shall carefully coordinate

the work of this section with all other work and construct and maintain shoring, bracing and supports, as required. The Contractor shall insure that structural elements are not overloaded and be responsible for increasing structural supports or adding new supports as may be required as a result of any cutting, removal, or demolition work performed under any part of this contract.

3.9 PUBLIC UTILITIES, NOTICES, AND RESTRICTIONS

3.9.1 General

The approximate location of all railroads, pipe lines, power and communication lines, and other utilities known to exist within the limits of the work are indicated on the drawings. The sizes, locations, and names of owners of such utilities are given from available information, but their accuracy is not guaranteed. Except as otherwise indicated on the drawings, all existing utilities will be left in place and the Contractor shall conduct his operations in such a manner that the utilities will be protected from damage at all times, or arrangements shall be made by the Contractor for their relocation at the Contractor's own expense. The Contractor shall be responsible for any damage to utilities known to exist and shall reimburse the owners for such damage caused by his operations.

3.9.2 Relocation or Removal

Utilities to be relocated or removed not as part of this contract are designated "To be Relocated by Others" or "To be Removed by Others", respectively. Utilities shown on the plans and not so designated will be left in place and be subject to the provisions of the CONTRACT CLAUSE: PROTECTION OF EXISTING VEGETATION, STRUCTURES, UTILITIES, AND IMPROVEMENTS. The Contractor may make arrangements with the owner for the temporary relocation and restoration of utilities not designated to be relocated, or for additional work in excess of the work needed to relocate utilities designated for relocation at no additional cost to the Government.

3.9.3 Utilities Not Shown

If the Contractor encounters, within the construction limits of the entire project, utilities not shown on the plans and not visible as of the date of this contract and if such utilities will interfere with construction operations, he shall immediately notify the Contracting Officer in writing to enable a determination by the Contracting Officer as to the necessity for removal or relocation. If such utilities are left in place, removed or relocated, as directed by the Contracting Officer, the Contractor shall be entitled to an equitable adjustment for any additional work or delay.

3.9.4 Coordination

The Contractor shall consult and cooperate with the owner of utilities that are to be relocated or removed by others to establish a mutual performance schedule and to enable coordination of such work with the construction work. These consultations shall be held as soon as possible after award of the contract or sufficiently in advance of anticipated interference with construction operations to provide required time for the removal or relocation of affected utilities.

3.9.4.1 Maintenance of Nevada Power Transmission Poles

Nevada Power Company has a 50 foot wide easement to operate and maintain the

existing transmission poles adjacent to the Red Rock Channel. Nevada Power Company requires 24-hours a day, 7-days a week access to maintain their transmission poles. Although the 50 foot wide Nevada Power Easement has been identified as a Temporary Construction Easement for this project, the Contractor is required to store equipment, tools, materials, excavation, and all other items in such a manner that will allow Nevada Power 24-hour access to maintain their poles.

3.9.5 Notices

3.9.5.1 Utilities To be Relocated or Protected

The Contractor shall notify the Contracting Officer, in writing, 14 calendar days prior to starting work on any utility to be relocated or protected. On each relocation, notification shall include dates on which the Contractor plans excavation, by-pass work, removal work and/or installation work, as applicable.

3.9.5.2 Existing Bench Marks and R/W Markers

The Contractor shall notify the Contracting Officer, in writing, 7 days in advance of the time he proposes to remove any bench mark or right-of-way marker.

3.9.5.3 Disposal Site

Excess Satisfactory excavated materials not utilized as part of the construction shall be placed in the disposal site indicated on the drawings, Sheet No. C-2 for the Western Segment Las Vegas Beltway Red Rock Channel. The Contractor shall indicate the approximate quantities of material he proposes to place in disposal site. In addition to the above requirements, the Contractor shall notify the Contracting Officer 24 hours in advance of the time he proposes to start operations in the disposal area, and 48 hours in advance of any work which he proposes to do in the disposal area on Saturday, Sunday or legal holidays.

3.9.5.4 Spill Reporting

The Contractor shall notify the Contracting Officer immediately after any spill, regardless of quantity, including all personnel exposures. The Contractor shall submit a written notification not later than 7 calendar days after the initial notification. The written notification shall include the following:

- a. Item spilled, leaked or releases in an unauthorized manner (Identification, Quantity and Manifest Numbers).
- b. Whether the amount spilled, leaked or released in an unauthorized manner is EPA reportable and, if reported, a copy of the report.
- c. Exact location of the spill, leak or unauthorized release.
- d. Nature of exposure to personnel.
- e. Containment procedures initiated.
- f. Anticipated cleanup and disposal procedure.
- g. Disposal location of spill, leak or unauthorized release residue.

3.9.5.5 Environmental Assessment Requirement

In order to satisfy the Environmental Assessment for this project, the Contracting Officer is required to have a qualified biologist on site at all times while clearing and grubbing operations are in progress. The biologist will be provided by the government. The Contractor shall notify the Contracting Officer 14 calendar days prior to the start of clearing and grubbing activities so that a biological monitor shall be required to walk immediately in front of the Contractors= clearing and grubbing equipment to survey for the threatened desert tortoise. For scheduling purposes, the Contractor shall coordinate and complete all clearing and grubbing activities within one-four workday period.

3.9.6 Restrictions

3.9.6.1 Representatives of Other Agencies

Personnel representing owners and agencies may be present for various portions of the work. However, the Contractor will be responsible only to the Contracting Officer.

3.9.6.2 Traffic Control Plan

The Contractor shall develop a Traffic Control Plan and obtain an approval from the Clark County Department of Public Works prior to construction. The plan shall include vehicular detour plans, details of truck haul routes, details of roadway restriping and signage for vehicular circulation, and parking details.

3.9.6.3 Existing Roads

The work shall be planned in such a manner that traffic on the existing roads outside actual construction areas and through the construction area shall be maintained at all times. The work area shall be examined carefully relative to the order and scope of work to be performed, with respect to the limiting provisions of the plans and specifications. The construction schedule shall be prepared giving full consideration to not impacting and maintaining traffic on existing roads outside and through the construction area. Additional work on the existing roads may be done by others during the life of this contract.

3.9.6.4 Access and Haul Roads

Plans shall be submitted for approval for all proposed access and haul roads, whether within or outside the limits of the construction area, at least 15 calendar days prior to construction of such roads. The plans shall indicate width of road, direction of traffic, road markings, type of guardrail, curves, grades, runouts, and other information in sufficient detail for studying safety of the proposed roads. Haul roads shall be proposed so that use of existing residential streets and roads are minimized.

3.9.6.5 Public and Private Access Roads

When it is necessary for heavy equipment to operate on or to cross project roads or arterial roads, flaggers, signs, lights and/or other necessary safeguards

shall be furnished to safely control and direct the flow of traffic. When it is necessary to operate on existing roads outside the construction area, all necessary permits shall be obtained from the appropriate private or public authority. Work shall be conducted in such manner so as to obstruct and

inconvenience traffic on existing roads outside the construction limits as little as possible. Spillage of earth, dusty materials, boulders, and mud on project roads or other road will not be permitted. If spillage cannot be prevented, the spillage shall be immediately removed and such areas shall be kept clear throughout the workday. At the conclusion of each workday, such traveled areas shall be cleared of spillage, boulders, and mud.

3.9.6.6 Maintenance of Roads

All haul and access roads, within the construction area, including the borrow areas, shall be maintained to provide vehicular access for the Government's vehicles and the Contractor's vehicles and equipment. Road maintenance shall include rock/mud slides, washouts, and any incident which would restrict vehicular/equipment access. Prior to any alterations of any road alignment, the Contractor shall receive an approval from the Contracting Officer. Road maintenance and alterations shall be performed by the Contractor at no additional cost to the Government.

3.9.6.7 Traffic Safety

In accordance with CONTRACT CLAUSE: ACCIDENT PREVENTION, signs, barricades, and warning devices shall be provided, installed, and maintained as are required for protection of vehicular traffic at any location where operations interfere with public roads. Signs, barricades, lights, and signals, shall be in conformance with Part VI of the U.S. Department of Transportation Manual on Uniform Traffic Control Devices for Streets and Highways.

3.9.6.8 Rock and Gravel

Rock and gravel for use on haul roads and other facilities may be obtained from any source with the excavation limits or stockpiles within the project boundaries not designated for other use. The use of any such source shall be subject to approval by the Contracting Officer.

3.9.6.9 Cooperation with Others

In addition to CONTRACT CLAUSE: OTHER CONTRACTS, agreements shall be made for cooperative use and maintenance of project road directly between the Contractors concerned and shall be subject to approval by the Contracting Officer. No maintenance shall be charged for its use of the roads. During the life of this contract, the Contractor is advised that the activities of other contractors will require access to portions of the Project Limits. These activities are listed at the end of this section under, SPECIAL CONSTRUCTION REQUIREMENTS. The Contractor shall coordinate his activities and cooperate with other contractors as to not delay or interfere with their work.

3.9.6.10 Temporary Culverts

Temporary culverts shall be provided as required for road drainage. Temporary culverts shall be corrugated metal pipe of adequate diameter. Exact locations of the temporary culverts shall be subject to approval by the Contracting Officer.

a. All culverts within the construction area, including the borrow areas, shall be maintained to provide unrestricted flow through the culverts. Culvert maintenance shall include debris cleaning, repair of failures, and extension of culverts due to road alterations. Culvert maintenance shall be performed by the

Contractor at no additional cost to the Government.

3.9.7 Working Hours

The Contractor shall restrict all construction activities to the following schedule:

Monday thru Friday	6:30 a.m. to 7 p.m.
Saturday	8 a.m. to 7 p.m.

No work will be permitted on Sundays or Federal Holidays without the prior written approval from the Contracting Officer.

3.9.8 Construction Water

There are no known developed sources for water at or in the immediate vicinity of the project site. The Contractor shall be responsible for obtaining water for construction purposes at no additional cost to the Government.

3.9.9 Lighting

The Contractor shall provide a minimum of 5 foot-candle lighting intensity for all construction areas during the contract performance period.

3.9.10 Identification of Vehicles

All the Contractor's vehicles shall display suitable permanent identification.

3.9.11 Construction Method Observation

Any construction method, plant, or piece of equipment used on this contract shall not be considered proprietary, and can be inspected or photographed at any time by the Government, regulatory agencies, or any group approved by the Government.

3.9.12 Contractor's Equipment

The planned method of transportation and operation of cranes and other heavy equipment to be used in the performance of this contract shall be submitted for approval by the Contracting Officer. The plan shall include the type, size, loadings of equipment, the proposed transportation routes, and work areas to be used on the project.

3.10 PUBLIC SAFETY

Attention is directed to the CONTRACT CLAUSE: PERMITS AND RESPONSIBILITIES. The Contractor shall provide temporary fencing, barricades, and/or guards, as required, to provide protection in the interest of public safety. Whenever the contractor's operations create a condition hazardous to the public, he shall furnish at his own expense and without cost to the Government, such flagmen and guards as are necessary to give adequate warning to the public of any dangerous conditions to be encountered and he shall furnish, erect, or maintain such

fences, barricades, lights, signs and other devices as are necessary to prevent accidents and avoid damage or injury to the public. Flagmen and guards, while on duty and assigned to give warning and safety devices shall conform to applicable city, county, and state requirements. Should the Contractor appear

to be neglectful or negligent in furnishing adequate warning and protection measures, the Contracting Officer may direct attention to the existence of a hazard and the necessary warning and protective measures shall be furnished and installed by the Contractor without additional cost to the Government. Should the Contracting Officer point out the inadequacy of warning and protective measures, such action of the Contracting Officer shall not relieve the Contractor from any responsibility for public safety or abrogate his obligation to furnish and pay for those devices. The installation of any general illumination shall not relieve the Contractor of his responsibility for furnishing and maintaining any protective facility.

3.11 OCCUPATIONAL SAFETY AND HEALTH ACT (OSHA) STANDARDS

The OCCUPATIONAL SAFETY and HEALTH ACT (OSHA) STANDARDS for CONSTRUCTION (Title 29, Code of Federal Regulations Part 1926 as revised from time to time) and the Corps of Engineers General Safety and Health Requirements Manual, EM 385 -1-1, are both applicable to this contract. The most stringent requirement of the two standards will be applicable.

3.11.1 Accident Reporting

In accordance with EM 385-1-1, the Contractor shall submit a written summary of worker's compensation claims which have been filled by worker's in connection with work on the project. The summary shall be submitted at the time when the work is approximately 50 percent complete and at project completion. The summary shall include all subcontractors. The Contractor's and subcontractor's compensation insurance carrier shall certify that the summaries are "correct and true".

3.12 PERMITS

3.12.1 General

Reference is made to the article of the contract entitled "Permits and Responsibilities", which obligates the Contractor to obtain all required licenses and permits.

3.12.2 Air Pollution Permit (APP)

The Contractor shall obtain an APP from the Clark County Health Department. For further information, contact Ms. Cynthia Mikes at telephone number (702) 383-1276.

3.12.3 National Pollutant Discharge Elimination System (NPDES) Permit

The Contractor shall obtain a NPDES permit from the United States Environmental Protection Agency (USEPA) under the Nation Wide Permit (NWP) program, which requires that a Storm Water Pollution Prevention Plan (SWPPP) shall be prepared and maintained on-site throughout the construction period. A copy of the plan will be submitted to the Contracting Officer. In accordance with the NWP, a minimum of two (2) days prior to the start of construction activities, the Contractor shall submit a Notice of Intent (NOI) with fees to the Nevada

Division of USEPA. The NOI shall be submitted on the standard EPA Form 3510-6 (8-92), and copies shall be provided to the Contracting Officer. For further information, contact Mr. Robb Saunders at telephone number (702) 687-4670.

3.13 NOTICE OF PARTNERSHIP

The Government intends to encourage the foundation of a cohesive partnership with the Contractor and its subcontractors. This partnership will be structured to draw on the strengths of each organization to identify and achieve reciprocal goals. The objectives are effective and efficient contract performance and intended to achieve completion within budget, on schedule, and in accordance with plans and specifications. This partnership would be bilateral in makeup, and participation will be totally voluntary. Any cost associated with effectuating this partnership will be agreed to by both parties and will be shared equally with no change in contract price. To implement this partnership initiative it is anticipated that within 60 days of Notice to Proceed the Contractor's on-site project manager and the Government's Resident Engineer would attend a two day partnership development seminar/team building workshop together with the Contractor's key on-site staff and key Government personnel. Follow-up workshop of 1 to 2 days duration would be held periodically throughout the duration of the contract as agreed to by the Contractor and Government.

3.14 AS-BUILT DRAWINGS

3.14.1 General

The Contractor shall furnish 3 full size sets of as-built blue-line prints for use in preparation of as-built drawings by the Government. The as-built prints shall be a record of the construction as installed and completed by the Contractor. They shall include all the information shown on the contract set of drawings and a record of all deviations, modifications, or changes from those drawings, however minor, which were incorporated in the work, all additional work not appearing on the contract drawings, and all changes which are made after final inspection of the contract work. In event the Contractor accomplishes additional work which changes the as-built conditions. The requirements for these additional drawings will be the same as for the as-built drawings included in the original submission. The prints shall show the following information, but not be limited thereto:

a. The location and description of any utility lines or other installations of any kind or description known to exist within the construction area. The location includes dimensions to permanent features.

b. The location and dimensions of any changes within the building or structure.

d. Correct grade or alignment of roads, structures, or utilities if any changes were made from contract plans.

e. Correct elevations if changes were made in site grading.

f. Changes in details of design or additional information obtained from working drawings specified to be prepared and/or furnished by the Contractor including but not limited to fabrication, erection, installation plans and placing details, pipe sizes, insulation material, dimensions of equipment foundations, etc.

g. The topography and grades of all drainage installed or affected as a part of the project construction.

- h. All changes or modifications which results from the final inspection.

3.14.2 Options

Where contract drawings or specifications allow options, only the option selected for construction shall be shown on the as-built drawings.

3.14.3 Submittal to Contracting Officer for review and approval

Not later than two weeks after acceptance of the project by the Government, the Contractor shall deliver to the Contracting Officer 3 full size sets of blue-line prints marked up to depict as-built conditions. If upon review, the drawings are found to contain errors and/or omissions, they shall be returned to the Contractor for corrections. The Contractor shall complete the corrections and return the drawings to the Contracting Officer within ten (10) calendar days.

3.15 DISPOSAL SITES

3.15.1 Disposal Site

Excess satisfactory excavated natural material not utilized as part of the construction shall be placed in disposal sites indicated on drawings, Sheet No. C-2 for the Western Segment Las Vegas Beltway Red Rock Channel. The Contractor shall notify the Contracting Officer 24 hours in advance of the time he proposes to start operations in the disposal area, and 48 hours in advance of any work which he proposes to do in the disposal area on Saturday, Sunday or legal holidays. The Contractor shall indicate the approximate quantities of material he proposes to place in Disposal site. Materials characterized as unsatisfactory soil in accordance with Section 02200 EXCAVATION shall become the property of the Contractor and shall be removed from the project site.

3.16 TIME EXTENSIONS FOR UNUSUALLY SEVERE WEATHER (ER 415-1-15, 31 OCT 89)

a. This provision specifies the procedure for determination of time extensions for unusually severe weather in accordance with the CONTRACT CLAUSE: DEFAULT (FIXED PRICE CONSTRUCTION). In order for the Contracting Officer to award a time extension under this clause, the following conditions must be satisfied:

(1) The weather experienced at the project site during the contract period must be found to be unusually severe, that is, more severe than the adverse weather anticipated for the project location during any given month.

(2) The unusually severe weather must actually cause a delay to the completion of the project. The delay must be beyond the control and without the fault or negligence of the Contractor.

b. The following schedule of monthly anticipated adverse weather delays is based on National Oceanic and Atmospheric Administration (NOAA) or similar data for the project location and will constitute the base line for monthly weather time evaluations. The Contractor's progress schedule must reflect these anticipated adverse weather delays in all weather dependent activities.

MONTHLY ANTICIPATED ADVERSE WEATHER DAYS
Work Days Based on five (5) Day Work Week

<u>JAN</u>	<u>FEB</u>	<u>MAR</u>	<u>APR</u>	<u>MAY</u>	<u>JUN</u>	<u>JUL</u>	<u>AUG</u>	<u>SEP</u>	<u>OCT</u>	<u>NOV</u>	<u>DEC</u>
6	2	2	1	1	0	2	2	1	1	1	3

c. Upon acknowledgement of the Notice to Proceed (NTP) and continuing

throughout the contract, the Contractor will record on the daily CQC report, the occurrence of adverse weather and resultant impact to normally scheduled work. Actual adverse weather delay days must prevent work on critical activities for 50 percent or more of the Contractor's scheduled work day. The number of actual adverse weather days shall include days impacted by actual adverse weather (even if adverse weather occurred in previous month), be calculated chronologically from the first to the last day of each month, and be recorded as full days. If the number of actual adverse weather delay days exceeds the number of days anticipated in subparagraph b, the Contracting Officer will convert any qualifying delays to calendar days, giving full consideration for equivalent fair weather work days, and issue a modification in accordance with the CONTRACT CLAUSE: DEFAULT (FIXED PRICE CONSTRUCTION).

3.17 REQUIRED INSURANCE

The Contractor shall procure and obtain during the entire period of his performance under this contract the following minimum insurance:

a. General Public Liability insurance for bodily injury and property damage with minimum limits of \$1,000,000 combined single limit per occurrence and \$1,000,000 annual aggregate for bodily injury to or death, personal injury and property damage.

b. Automobile Liability insurance for bodily injury and property damage with minimum limits of \$1,000,000 combined single limit for each occurrence and \$1,000,000 annual aggregate.

c. Either Workman's Compensation or Employer's Liability insurance with a minimum limit of \$1,000,000.

In every case the insurance coverage shall amount to at least the limits stated above. However, where the Financial Responsibility Compulsory Insurance Law of the State in which the installation is located requires higher limits, the Automobile Liability Insurance Policy should provide coverage of at least those limits. County of Clark, a political subdivision of the state of Nevada, and Clark County Regional Flood Control District shall be named as additional insured parties and all policies issued in performance of work under this contract.

The Contractor does hereby agree to indemnify, defend, and save harmless Clark County and Regional Flood Control District from loss, damage, liability, costs, or expense to the proportionate extent caused by the Contractor, his employees, agents, or consultants and/or consultants arising out of its performance of this contract, including, but not limited to the negligent acts, errors, omissions, or intentional misconduct of the Contractor, its employees, agents or consultants and/or subconsultants in connection with this contract.

Contractor further does hereby agree, as a precaution to the performance of any work under this contract and as a precaution to any obligation of Clark County to make any payment under this contract, to provide Clark County with a certificate and/or a certificate issued by the State Industrial Insurance

System (SIIS) in accordance with Nevada Revised Statute 616.280. Contractor agrees to maintain required workers compensation throughout the entire term of the contract. If Contractor does not maintain coverage throughout the entire term of the contract, Contractor agrees that Owner may, at any time the coverage is not maintained by Contractor, order the Contractor to stop work, assess liquidated damages as defined herein, suspend the contract, or terminate the contract. For each six month period this contract is in effect, Contractor agrees, prior to the expiration of the six month period, make another written request to SIIS for the provisions of a certificate and notice of lapse in or nonpayment of coverage. If Contractor does not make the request or does not provide the certificate before the expiration of the six month period, Contractor agrees that owner may order the Contractor to stop work, suspend the contract or terminate the contract.

3.18 SPECIAL CONSTRUCTION REQUIREMENTS FOR WESTERN SEGMENT LAS VEGAS BELTWAY RED ROCK CHANNEL

3.18.1 General

The Contractor shall restrict his operations and adapt his construction schedule to accommodate the following:

3.18.2 PROJECT LIMITS

The Contractor's work, employee parking, operations, staging, equipment assembly and maintenance, and other on-site activities shall be restricted to actual areas of construction within the Project Limits. The Project Limits of Red Rock Channel are indicated on the drawings, and constitute the maximum limits of the construction area available for Contractor's operations.

The Contractor shall be solely responsible for obtaining agreements with and acquisitions from adjacent land owners, when additional land or access points are required to supplement the Contractor's operational or staging needs. No Channel appurtenances or other public access facilities (either temporary or permanent) shall be constructed beyond the Project Limits.

3.18.3 COORDINATION WITH OTHER CONTRACTORS

The Contractor is advised that the activities of other contractors will require their access to portions of the Project Limits. These include, but are not restricted to:

3.18.3.1 Construction of Beltway Segment 10A Roadway

Construction of the Beltway Segment 10A Interim Beltway Project (which will include two paved lanes in each direction and crossroads embankments at Town Center Drive, Desert Inn Road, and Sahara Avenue) is scheduled to be constructed simultaneously with the Red Rock Channel (Sec 10A Channel). Additional work at the Hualapai crossing is also included in the Segment 10A Interim Beltway Project. Project Limits for the 10A Interim Beltway Project will be essentially the same as the Red Rock Channel project and will also include additional construction areas at the above listed road crossings.

3.18.3.2 Construction of the Western (Las Vegas) Beltway Section 7B, 8 and 9

Construction of the Western (Las Vegas) Beltway Section 7B, 8 and 9 is underway with a current required completion date in the Spring of 2000. The RCB Construction under the Section 9 portion at Hualapai is anticipated to be built during the summer/fall of 1999. The Red Rock Channel Contractor shall fully coordinate the RCB extension at Hualapai with the Section 9 Contractor and if necessary, construct the Red Rock Channel RCB portion at Hualapai without the Section 9 RCB portion being in place.

3.18.3.3 Construction of the R-4 Channel

Construction of the R-4 Channel contract is anticipated to commence during the spring of 2000. The Red Rock Channel contractor shall coordinate construction activities between the two channel projects after the issuance of a notice to proceed on the R-4 Channel has been issued.

3.18.3.4 Notification of Potential Conflicts

The Contractor will be notified in writing not less than 30 calendar days prior to the date the Notice to Proceed (NTP) will be issued for the Beltway 10A Roadway Project, the R-4 Channel Project, or for the Western Beltway (Sahara to Charleston) Project. The Contractor shall notify the Contracting Officer in writing of any areas of unavoidable conflict that would require the 10A Roadway Project contractor to modify his activities. This does not include the interim completion areas listed below.

3.18.4 ORDER OF CHANNEL CONSTRUCTION

Any continuation of the Contractor's operations in and access to those areas following issuance of the Notice to Proceed for the adjacent contract shall be requested in writing, and shall include:

1. a detailed critical-path scheduling diagram of the activities proposed,
2. a projected date of completion, and
3. a proposed method of coordination between potentially conflicting contract operations.

This information shall be reviewed by the Contracting Officer and if deemed acceptable, shall be approved by the Contracting Officer otherwise interim completions and restrictions listed below shall remain in effect.

3.18.4.1 Storm Runoff

In consideration of the potential for high-volume storm runoff occurring during the period of time when existing runoff patterns are disrupted, but the channel is not yet in service, the order of construction needs to be set to avoid significant erosive damage to elements of the project and existing facilities downstream.

The Contractor shall make all practical efforts to:

1. stage the construction of the channel from downstream to upstream (east to west), and
2. avoid long delays between excavation of the channel (and disruption of existing runoff patterns) and construction of the cast-in-place elements of the channel.

3.18.4.2 Access to the Construction Site.

The Contractor shall anticipate that access to the project site along Hualapai from the north will be terminated in conjunction with the Section 10A Roadway project. Construction access to the project site along Town Center Drive, Desert Inn Road and Sahara from the east shall remain available, however, coordination for detour work may be required at various times during the duration of the Red Rock Channel contract. The Red Rock Channel contractor shall be required to submit and receive approval for detour plans at all road crossings along the Red Rock Channel alignment which alter the current traffic flow patterns. Detour (Traffic Control) plans shall be approved by the Contracting Officer and the Clark

County Department of Public Works.**3.18.4.3 Construction in the vicinity of Hualapai.**

The Red Rock Channel contractor shall fully coordinate their construction efforts with the Section 7B, 8 and 9 Contractor and the Section 10A Roadway Contractor. All work under the Red Rock Channel contract from Sta 10+00 to Sta 10+22 shall be completed within 60 days of the Red Rock Channel contract notice to proceed. If concrete has not reached design strength at the completion of this 60 day construction period, form work shall be left in place so that the other construction contracts may proceed in this area without delay.

3.18.4.4 Construction in the Vicinity of Town Center Drive.

The RCB channel section of the Red Rock Channel at Town Center Drive (Sta 45+56.54 to Sta 47+80.54) to include backfilling of same and permanent asphalt, curb and gutter replacement, shall be completed within 90 calendar days from the Red Rock Channel notice to proceed, so that other construction contracts may proceed in this area without delay. The Town Center Drive improvements shown to be existing on the contract drawings may or may not be completed at time of Notice to Proceed for the Red Rock Channel contract. The Red Rock Channel contractor shall coordinate activities in this area with the Town Center Drive contractor if improvements for same are not yet completed.

3.18.4.5 Construction in the vicinity of Desert Inn.

The RCB channel section of the Red Rock Channel at Desert Inn (Sta 87+00 to Sta 88+86.32) to include backfilling, replacement of the permanent street improvements, and the construction of the side drain stubouts located at Sta 87+25.44 Left and Sta 87+84.97 Left, complete, shall be completed within 110 calendar days of the Red Rock Channel notice to proceed.

3.18.4.6 Construction in the vicinity of Sarhara Avenue

All channel work under the Red Rock Channel contract between stations 131+50.00 and 139+47.90 shall be completed by APRIL 15, 2000.

3.18.5 Additional Coordination Issues**3.18.5.1 Golf Course Drain**

The golf course drain for the Red Rock Country Club, identified as a "Structure by Others" in the vicinity of Sta 107+00 of the Red Rock Channel, may be constructed in advance of or during the construction of the Red Rock Channel contract. This golf course drain can be expected to be active during the contract performance period for the Red Rock Channel contract. The Red Rock Channel contractor shall coordinate this other construction/other completed structures into their construction phasing requirements for the construction of the Red Rock Channel.

3.18.5.2 Haul Road Interferences

The Red Rock Channel contractor shall anticipate haul road interferences associated with the construction of Section 10A Roadway project at all road crossings identified above. In addition, other haul road interference may result in conjunction with the construction of the R-4 Channel, the Red Rock County Club golf course drain and/or the Sahara Blvd (Western Beltway) Improvements. Minor haul route realignments or grade approach structures may be required as a result of this other simultaneous or completed work.

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SECTION 01250

MEASUREMENT AND PAYMENTS

1. GENERAL.

The contract price and payment shall constitute full compensation as stated in the Contract Clause, CONTRACT PRICES - BIDDING SCHEDULES, for completion of the work. No separate payment will be made for any material or work covered in this specification, but not specifically mentioned as part of a bid item, and all costs into which the work pertains or considered incidental to all bid items. As stated on Contract Clause, SPECIFICATIONS AND DRAWINGS FOR CONSTRUCTION, the word "provided" shall be understood to mean "furnished and installed" when used in this section or elsewhere in the Technical sections.

2. TRAFFIC CONTROL.

Payment for traffic control will be made at the applicable contract price, which payment shall constitute full compensation for traffic control including but not limited to earthwork and grading, construction and removal of temporary roadways; providing safety barriers; providing traffic warning and control signs and lighting; stripping; flagmen as required.

3. DIVERSION AND CONTROL OF WATER.

Payment for Diversion and Control of Water will be made at the applicable contract price, which payment shall constitute full compensation for maintaining the work area in a dry condition.

4. CLEAR SITE AND REMOVE OBSTRUCTIONS.

Payment shall include all costs for clearing, removal, replacement, and restoration work (except work by others) including all existing obstructions within the construction work area. Except as otherwise specified, payment for clearing and removal work includes applicable earthwork; filling holes; removal of abandoned utility lines; removal of existing surface trash and debris, including trees and vegetation, and grubbing from within the Channel right-of-way and temporary construction easement; protection, replacement or restoration of existing structures and features indicated and disposal of all materials. Payment for Clear Site and Remove Obstructions will be made at the applicable contract price, which payment shall constitute full compensation for clearing, obstruction removal, and protection work, complete.

5. EXCAVATION.

5.1. Measurement.

A survey of the site shall be made prior to commencement of work, and all measurements will be based on this survey without regard to any changes in the site that may be made between the excavation lines and grades indicated on the drawings or staked in the field and the ground surfaces as indicated by the above mentioned survey. The quantity of directed excavation necessary for the removal of unsatisfactory foundation material as specified shall be included in the measurement of the excavation where the unsuitable soils are encountered. Quantities will be computed in cubic yards by the average end area method and the planimeter will be considered a precise instrument for measurement of plotted cross sections. All excavation outside of excavation

lines shown on the drawings will be considered as being for the convenience of the Contractor.

5.2. Payment.

Payment for excavation will be made at the applicable contract price, which payment shall constitute full compensation for excavating the channel, and other areas as indicated on the drawings, including shoring, rock removal,

and cemented alluvium excavation; shaping and trimming of areas to receive concrete; crushing or otherwise processing, loading, stockpiling, hauling, and placing suitable materials for compacted fill and miscellaneous fill; loading, stockpiling, hauling, stockpiling of excess suitable excavated materials no larger than 12 inches in size at disposal site shown on Drawing No. C-2; and any costs associated with disposal of excess excavated materials in areas other than those shown on the drawings, complete. Payment will not be included for excavation (including shoring) outside the excavation limits indicated on the drawings or staked in the field, and other excavation requirements for which separate payments are provided.

5.2.1. Subgrade Preparation.

No separate payment will be made for subgrade preparation and all costs in connection therewith shall be included in the contract prices for the items to which the work applies.

5.2.2. Unsatisfactory Soils.

No separate payment will be made for the excavation and disposal of unsatisfactory soils. When such excavation is directed, payment therefore will be included in the applicable contract price for the items of work under which the unsatisfactory soils are encountered.

5.2.3. Excavation for Structures.

No separate payment will be made for excavation for structures. All costs therefore shall be included in the applicable contract item to which the work applies.

5.2.4. Trenches.

No separate payment will be made for excavation of utility and side drain trenches. All costs therefore shall be included in the applicable contract prices for the items to which the work applies.

5.2.5. Shoring.

When shoring is indicated or directed for items for which separate payment is made, payment will be included in the applicable contract price for the items of work under which the shoring is placed.

6. FILLS.

6.1. Measurement.

Measurement for fills will be made between the excavation and structure lines and the fill limit lines, or between the ground lines and fill lines, as indicated or staked in the field. Quantities will be computed in cubic yards by the average end area method and the planimeter will be considered a precise instrument for measuring plotted cross sections.

6.2. Payment.

6.2.1 Compacted Fill.

Payment for compacted fill will be made at the applicable contract price, which payment shall constitute full compensation for shaping, grading, backfilling the channel walls, and compacting the fills, complete. Payment will not be included for fills outside the fill limits indicated on the drawings or staked in the field, and other fill requirements for which separate payments are provided.

6.2.2 Fill for Structures.

No separate payment will be made for fill or backfill around structures. All such costs shall be included in the applicable contract prices for structure items to which the work applies.

6.2.3 Trenches.

No separate payment will be made for backfilling for utilities, side drains and confluences. All costs in connection therewith shall be included in the contract prices for items to which the work applies.

6.2.4 Subgrade Preparation.

No separate payment will be made for subgrade preparation and all costs in connection therewith shall be included in the contract prices for items to which the work applies.

7. CONCRETE.

7.1. Measurement.

Measurement of concrete will be made on the basis of the actual volume, in cubic yards, of concrete within the pay lines of the concrete invert slab, walls, top slab, and slope protection as shown on the drawings. Measurement of concrete placed against the sides of any excavation without the use of intervening forms will be made only within the pay lines of the structures. No deductions will be made for rounded or beveled edges or space occupied by metalwork, nor voids or embedded items which are either less than 0.2 cubic yards in volume or one-tenth of square yard in cross section. Concrete placed in items of work other than those specifically mentioned above, and concrete wasted or used for the convenience of the Contractor will not be included in measurement for payment.

7.2. Payment.

Payment for the concrete items will be made at the applicable contract prices for the various items of the schedule, which payments shall constitute full compensation for labor, materials (except reinforcing steel for which separate payment is provided), joint sealant, forming, furnishing, curing, and for all equipment and tools to complete the concrete work. Embedded items shall be included in the cost of the concrete except when other payment is specifically provided. No payment will be made for concrete, as such, which is placed in structures for which payment is made on a lump sum basis.

7.2.1. Concrete, Invert Slab.

Payment for "concrete, invert slab" will be made at the applicable contract price, which shall constitute full compensation for all concrete placed for the invert slab of the channel, keys, and starter walls, complete.

7.2.2. Concrete, Side Slope.

Payment for "concrete, side slope" will be made at the applicable contract price, which payment shall constitute full compensation for all concrete placed in the trapezoidal channel side slopes, excluding the cut-off walls, complete.

7.2.3. Concrete, Cut-off Wall.

Payment for "concrete, cut-off wall" will be made at the applicable contract price, which payment shall constitute full compensation for all concrete placed in the cut-off walls, complete.

7.2.4. Concrete, Walls.

Payment for "concrete, walls" will be made at the applicable contract price, which payment shall constitute full compensation for all concrete placed above the starter walls in the vertical walls of the channel, the walls of the warped transition structures, complete.

7.2.5. Concrete, Top Slab.

Payment for "Concrete, top slab" will be made at the applicable contract price, which payment shall constitute full compensation for all concrete placed for the top slab including headwalls @ RCB, complete.

7.2.6 Concrete, Transition

Payment for "concrete, transition" and all costs in connection therewith shall be included in the contract prices for "concrete walls" and "concrete, invert slab" or to the applicable contract price for which the work applies.

7.2.7 Concrete Aprons

Payment for the Concrete Aprons will be made at the applicable contract price, which payment shall constitute full compensation for all concrete placed for the concrete aprons, complete.

8.0 CHANNEL TRANSITION, STA 17+00 to STA 19+35

Payment for the concrete channel transition (Sta. 17+00 to Sta. 19+35) will be made at the applicable contract price, which payment shall constitute full compensation for the channel transition, complete, including excavation and disposal; compacted fill; furnishing and placing reinforcing steel; furnishing, placing, finishing and curing concrete; and all incidentals, complete as shown on the drawings, except for pedestrian hand rail, chain link fencing, and weep hole system.

9.0 BOX CULVERT, STA. 10+00 to STA. 10+22

Payment for the concrete box culvert (Sta. 10+00 to Sta. 10+22) will be made at the applicable contract price, which payment shall constitute full compensation for the box culvert, complete, including excavation and disposal; compacted fill; furnishing and placing reinforcing steel; furnishing, placing, finishing and curing concrete; removal of plywood plug, and all incidentals, complete as shown on the drawings except for pedestrian hand rail, chain link fencing, and weep hole system.

10.0 BOX CULVERT, STA. 32+00 to STA. 33+70

Payment for the concrete box culvert (Sta. 32+00 to Sta. 33+70) will be made at the applicable contract price, which payment shall constitute full compensation for the box culvert, complete, including excavation and disposal; compacted fill; furnishing and placing reinforcing steel; furnishing, placing, finishing and curing concrete; and all incidentals, complete as shown on the drawings except for pedestrian hand rail, chain link fencing, and weep hole system.

11.0 INVERT ACCESS RAMP, STA. 41+66.47 to STA. 43+18.88

Payment for the Invert Access Ramp (Sta. 41+66.47 to Sta. 43+18.88) will be made at the applicable contract price, which payment shall constitute full compensation for the invert access ramp, complete, including excavation and disposal; compacted fill; furnishing and placing reinforcing steel; furnishing, placing, finishing and curing concrete; and all incidentals, complete as shown on the drawings except for pedestrian hand rail, chain link fencing, double swing gate, and weep hole system.

12.0 BOX CULVERT, STA. 45+56.54 to STA. 47+80.54

Payment for the concrete box culvert (Sta. 45+56.54 to Sta. 47+80.54) will be made at the applicable contract price, which payment shall constitute full compensation for the box culvert, complete, including excavation and disposal; compacted fill; furnishing and placing reinforcing steel; furnishing, placing, finishing and curing concrete; temporary traffic detour; removal, disposal, and

replacement of existing road surfacing and type II material; removal, disposal and replacement of existing curb and gutter; pavement markings; demolition, removal and disposal of existing 60" CMP; and all incidentals, complete as shown on the drawings except for pedestrian hand rail, chain link fencing, double swing gate, and weep hole system.

13.0 BOX CULVERT, STA. 50+00.05 to STA. 50+50.05

Payment for the concrete box culvert (Sta. 50+00.05 to Sta. 50+50.05) will be made at the applicable contract price, which payment shall constitute full compensation for the box culvert, complete, including excavation and disposal; compacted fill; furnishing and placing reinforcing steel; furnishing, placing, finishing and curing concrete; and all incidentals, complete as shown on the drawings except for pedestrian hand rail, chain link fencing, double swing gates, and weep hole system.

14.0 BOX CULVERT, STA. 87+00 to STA. 88+86.32

Payment for the concrete box culvert (Sta. 87+00 to Sta. 88+86.32) will be made at the applicable contract price, which payment shall constitute full compensation for the box culvert, complete, including excavation and disposal; compacted fill; furnishing and placing reinforcing steel; furnishing, placing,

finishing and curing concrete; temporary traffic detour; removal, disposal, and replacement of existing road surfacing and type II material; removal, disposal, and replacement of existing curb and gutter; pavement markings; and all incidentals, complete as shown on the drawings except for pedestrian hand rail, chain link fencing, double swing gate, and weep hole system.

15.0 BOX CULVERT, STA. 129+98.96 to STA. 145+15.00

Payment for the concrete box culvert (Sta. 129+98.96 to Sta. 145+15.00) will be made at the applicable contract price, which payment shall constitute full compensation for the box culvert, complete, including excavation and disposal; compacted fill; furnishing and placing reinforcing steel; furnishing, placing, finishing and curing concrete; demolition, removal and disposal of existing riprap; and all incidentals, complete as shown on the drawings except for pedestrian hand rail, chain link fencing, double swing gate, and weep hole system.

16.0 7' x 4' RCB STUB, STA. 45+24.70

Payment for the reinforced concrete box (RCB) will be made at the applicable contract price, which payment shall constitute full compensation for the RCB, complete, including excavation and disposal; compacted fill; furnishing and placing reinforcing steel; furnishing, placing, finishing and curing concrete; and all incidentals, complete as shown on the drawings except for pedestrian hand rail, chain link fencing, double swing gate, and weep hole system.

17.0 SIDE DRAINS @ STA 134+69.29 LT. and STA 137+05.00 LT.

Payment for side drain and stub-outs will be made at the applicable contract price, which payment shall constitute full compensation for the side drain and stub-outs, complete, as shown on the drawings, including earthwork; furnishing and placing reinforcing steel; furnishing, placing, finishing and curing concrete for the side drain junction structures and inlet structure; furnishing and placing concrete pipe, fittings and end sections; furnishing and placing riprap; and placing temporary pipe barriers for stub-outs. The earthwork included shall be only that earthwork which is located outside the limits of earthwork for which other payment is provided and no payment will be made under this item for concrete, and concrete pipe for which separate payment is provided.

18.0 REINFORCING STEEL

18.1. Measurement.

Measurement of reinforcing steel in English tons (2000 lb.) is limited to

reinforcement in concrete structures paid for on a cubic yards basis. Measurement will be made of the lengths of bars actually placed in the completed work in accordance with the plans and specifications, approved bar schedules, or as directed. The measured lengths will be converted to weights for the bar numbers listed by the unit weights per linear foot contained in ASTI A 615. Steel in laps indicated on the drawings, in the specifications, or required by the Contracting Officer will be included in measurement for payment. No measurement will be made for the additional steel in laps which are authorized for the convenience of the Contractor. No measurement will be made of steel supports or spacers. All costs for furnishing and installing supports and spacers shall be included in the various structures requiring the reinforcement.

18.2. Payment.

Payment for reinforcing steel will be made at the applicable contract price, which payment shall constitute full compensation for furnishing and installing steel reinforcement, complete. No payment will be made for steel reinforcement which is placed in structures for which payment is made on a lump sum basis.

19.0 REINFORCED CONCRETE PIPE

19.1 Measurement

Provide and install RCP as shown on the drawings. The Work shall consist of complete installation; laying and compaction of the Class C bedding and selected material, laying the pipe, grouting in the joints, grouting pipe connections, pipe penetrations, and placing and compacting selected material and Compacted Fill around and over the pipe to meet the finished elevation. The quantity of precast sections will be the length of each size of each class complete and in place.

19.2 Payment

19.2.1 18"Dia. RCP

Payment for reinforced concrete pipe will be made at the applicable contract price, which payment shall constitute full compensation for the installation of 18 inch RCP, involving laying and compacting the bedding and selected material, laying the pipe, grouting the joints, grouting pipe connections, pipe penetrations, and placing and compacting the selected material and compacted Fill around and over the pipe to the elevation shown on the plans, complete and in place.

19.2.2 24" Dia. RCP

Payment for reinforced concrete pipe will be made at the applicable contract price, which payment shall constitute full compensation for the installation of 24 inch RCP, involving laying and compacting the bedding and selected material, laying the pipe, grouting the joints, placing and compacting the selected material and compacted Fill around and over the pipe to the elevation shown on the plans, complete and in place.

20.0 HDPE PIPE

20.1 Measurement

Provide and install HDPE as shown on the drawings. The Work shall consist of complete installation; laying and compaction of the bedding and selected material, laying the pipe, grouting in the joints, grouting pipe connections, pipe penetrations, and placing and compacting selected material and Compacted Fill around and over the pipe to meet the finished elevation. The quantity of precast sections will be the length of each size of each class complete and in place.

20.2 Payment

Payment for HDPE pipe will be made at the applicable contract price, which payment shall constitute full compensation for the installation of 24"HDPE, involving laying and compacting the Class C bedding and selected material, laying the pipe, grouting the joints, grouting pipe connections, pipe

penetrations, and placing and compacting the selected material and Compacted Fill around and over the pipe to the elevation shown on the plans, complete and in place.

21.0 TYPE I MANHOLES.

Payment for "TYPE I Manholes" will be made at the applicable contract price for the type and size specified, and shall be considered full compensation for furnishing all labor, materials, tools, equipment, including applicable earthwork and all incidentals, complete.

22.0 ASPHALT CONCRETE PAVEMENT.

22.1 Measurement.

Measurement for asphalt concrete pavement will be by the English tons (2000 lb.) of asphalt concrete pavement placed within the lines and grades as indicated on the drawing.

22.2 Payment.

Payment for asphalt concrete pavement will be made at the applicable contract price which payment shall constitute full compensation for asphalt concrete pavement in place, complete including tack coat, prime coat and appurtenant work except for aggregate base course. No payment will be made for excessive thickness. AGGREGATE BASE COURSE.

23.1 Measurement.

Measurement of aggregate base course will be by the English tons (2000 lb.) of aggregate base course placed within the lines and grades indicated on the drawings.

23.2 Payment.

Payment for aggregate base course will be made at the applicable contract price which payment shall constitute full compensation for earthwork required for installation of aggregate base course, furnishing and placing the aggregate base course, complete, including subgrade preparation.

24.0 RIPRAP

24.1 Measurement.

The quantity of stone to be paid for will be the number of English tons (2000 lb.), determined by scale weights, acceptably placed within the lines and grades shown on the drawings or directed by the Contracting Officer.

24.2 Payment.

Payment for Stone Protection, of the various types will be made at the applicable contract unit prices, per English ton, which prices shall constitute full compensation for obtaining and placing the materials, complete.

25.0 WEEPHOLE SYSTEM.

Payment for the weephole system will be made at the applicable contract price, which payment shall constitute full compensation for materials, and

installation of the weephole system, complete including applicable earthwork, drain aggregate, geotextile, form openings and appurtenances, complete.

26.0 NDOT TYPE "R" PEDESTRIAN HAND RAIL (MODIFIED)

Payment for "NDOT TYPE "R" PEDESTRIAN HAND RAIL (MODIFIED)" will be made at the applicable contract price which payment shall constitute full compensation for the pedestrian hand rail, including pipe railing and post, sleeves, coil chain gates , fabrication, grout or dry pack, and all incidentals, complete

27.0 FLOW MONITORING STATION.

Payment for "FLOW MONITORING STATION" will be made at the applicable contract price for the type and size specified on Drawing No. SD-25, and shall be considered full compensation for furnishing all labor, materials, tools, equipment, including applicable earthwork and all incidentals, complete.

28.0 CHAIN LINK FENCING.

28.1 Measurement.

Measurement of chain link fencing will be by the linear feet of chain link fencing constructed as shown on the drawings.

28.2 Payment.

Payment for chain link fencing will be made at the applicable contract price, which payment shall constitute full compensation for chain link fencing, including posts with caps, rail, chain link fabric, stretcher bars, tension bands, wire ties, truss wire, sleeves, grout, and all incidentals, complete as shown on the drawings.

29.0 DOUBLE SWING GATES.

29.1 Measurement

Measurement of double swing gates will be the number of double swing gates acceptably installed.

29.2 Payment.

Payment for double swing gate will be made at the applicable contract price, which payment shall constitute full compensation for fabricating and installing the double swing gates, complete, including posts with caps, chain link fabric, frame members, tension bands, truss rods, stretcher bars, wire ties, truss wire, sleeves, hinges, grout, and all incidentals, complete, as shown on the drawings.

30.0 FENCE POST SLEEVES.

Payment for "fence post sleeves" will be made at the applicable contract price which payment shall constitute full compensation for the fence post sleeves, including fabrication of steel pipe sleeves, rebars, grout, and all incidentals, complete

31. INVERT ACCESS LADDERS.

Payment for "invert access ladders" will be made at the applicable contract lump sum price, and shall be considered full payment for fabrication, assembly fittings, finishing, paint, and markings. Installation and all equipment, labor and fittings needed for such shall be considered incidental to the contract price for the concrete item to which the ladder is attached.

32. DETOUR @ SAHARA AVENUE.

Various items of work associated with the construction of the rectangular channel at Sahara Avenue such as protect and support existing water, gas, and fiber optic lines; repair/replacement of irrigation lines; protection of existing landscaping; demolition, removal, disposal and replacement of existing curb and gutter; demolition, removal, disposal and replacement of existing pavement and type II material; pavement markings; and traffic control. Payment for these items will be made at the applicable contract price, which payment

constitute full compensation for all the above mentioned items, complete.

33. REMOVE 96" CIPCP/CMP AT SAHARA AVENUE

Remove 78 feet of existing drainage (Cast-In-Place Concrete Pipe and Corrugated Metal Pipes) structure. Payment for demolition, removal and disposal of drainage structure will be made at the applicable contract price, which constitute full compensation for demolition, removal and disposal of the existing drainage structure, complete.

34. PROTECTION OF EXISTING SANITARY SEWER LINE, STA 88+25.65

Protect and support existing sanitary sewer line. Payment for protection and support of existing sanitary sewer line will be made at the applicable price, which payment shall constitute full compensation for protection and support of the sanitary sewer line, complete.

35. PROTECTION OF UTILITIES AT TOWN CENTER DRIVE

Protect and support existing electrical power lines, telephone/communication lines and waterlines. Payment for Protection and Support of existing electrical power lines, telephone/communication lines and waterlines will be made at the applicable contract price, which payment constitute full compensation for protection and support of existing electrical power lines, telephone/communication lines and waterlines, complete.

36. SOIL STABILIZER

36.1 Measurement.

Measurement of "soil stabilizer" will be made on the basis of the actual area in acres of exposed excavation and fill surfaces in the construction areas treated with soil stabilizer as indicated or directed.

36.2 Payment

Payment for "soil stabilizer" will be at the applicable contract price, which payment shall constitute full compensation for the soil stabilizer including materials, processing, hauling, and placing, complete in place.

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SECTION 02200

EXCAVATION

1 GENERAL

1.1 REFERENCES

The publications listed below form a part of this specification to the extent referenced. The publications are referred to in the text by basic designation only.

AMERICAN SOCIETY FOR TESTING AND MATERIALS (ASTM)

ASTM D 2487 (1993) Classification of Soils for Engineering Purposes (Unified Soil Classification System)

U.S. ARMY CORPS OF ENGINEERS (COE)

COE EM 385-1-1 Safety and Health Manual

1.2 GENERAL

Excavation shall consist of the removal of every type of material encountered in the designated areas or from areas directed. The material to be removed may include but is not limited to hardpan, silt, sand, gravel, cobbles and boulders, cemented silt/sand/gravel/cobbles/boulders with various degrees of cementation, caliche, asphalt, vegetation, trash, and other debris. Excavation of temporary slopes, as indicated on the drawings, have been designated per soils report prepared by Kleinfelder, project no. 31-300304, dated November 23, 1998 and Kleinfelder letter to VTN Nevada, dated June 1 1999. Unforeseen conditions may dictate that the designated slopes do not necessarily represent the actual slopes to which the excavation must be made to safely perform the work; in such cases, the temporary cut slope shall be made to the actual slope to which the work can be safely performed. Measurement and payment for excavation will be made in accordance with Section 01250, paragraphs 5.1 and 5.2. Excavation for permanent cuts shall be made to the slope lines indicated. Excavation may require ripping or other rock-excavation techniques, including blasting, and shall be performed in a manner which will not impair the subgrade. Rock or cemented material from required excavation to be used in compacted fills and backfills shall be crushed or otherwise reduced in size to meet gradation requirements (Section 02250: FILLS AND SUBGRADE PREPARATION) prior to placement or stockpiling. Except as otherwise specified, the finish surface of subgrades shall be smooth and shall not vary more than 0.1 foot from indicated grade. Prior to commencing excavation, the Contractor shall submit his plan for excavation to the Contracting Officer. All subgrade excavations will be inspected by the Contracting Officer prior to placement of any fill materials.

1.3 BLASTING

Any method used to excavate the channel using explosives shall be subject to the approval by the Contracting Officer.

1.3.1 General Requirements

The drilling and blasting program and methods shall be the minimum necessary to break up the rock (caliche) into bulldozer-manageable sized pieces for removal. Only the minimum strength explosive that will accomplish the fracturing will be allowed. If multiple charges are deemed necessary, they will be sequenced to produce good breakage of the rock and reduce airblast (sonic impacts) and ground vibrations to minimal levels. In the design of the

blasting pattern, no blastholes will be permitted within 200 feet of an active

tortoise burrow. A qualified desert tortoise ecologist is required to be present during all blasting operations to ensure that there are no occupied burrows and/or to remove tortoises from the surface or burrows within the 200 foot limit. The desert tortoise ecologist will provide a short report with field notes to the Contracting Officer. The desert tortoise ecologist will be provided by the Contractor at his own expense. Additional restrictions may be imposed during the hibernation period (15 November through 15 March) to protect hibernating tortoises, if necessary and directed by the Contracting Officer. The Contractor shall strictly comply with all State and local regulations regarding construction blasting (e.g., Uniform Standard Specifications for Public Works Construction Off-Site Improvements, Clark County Area, Nevada, Third Edition, subsections 107.10, 203.03.03, and 208.03.01, and Engineer Manual (EM) 1110-2-3800, including all notice and reporting requirements). Under no circumstances shall blasting be performed within 100 feet of concrete that has been placed less than seven days. Blasting within 100 feet of concrete older than seven days will be permitted only if approved by the Contracting Officer.

1.3.2 Blasting

Prior to drilling for each blast, unless excepted by the Contracting Officer, the Contractor shall submit on an approved form the pertinent data on the location, depth and area of the blast; diameter, spacing, depth, overdepth, pattern and inclination of blast holes; the type, strength, amount, distribution and powder factor for the explosives used per hole and per blast; the sequence and pattern of delays, and description and purpose of special methods. The loading of holes shall be done in the presence of a Government inspector. Acceptance by the Contracting Officer of blasting data will not relieve the Contractor of his responsibility to produce satisfactory results as set forth in these specifications. Drilling and blasting shall be done only to the depth, amount, and at such locations, with explosives of such quantity, distribution and density that will not produce unsafe or damaged foundation surfaces or damage material beyond the prescribed excavation limits. When a drilling and blasting program results in damage to the excavation, the Contractor will be required to devise and employ methods which will prevent such damage. The revision may include special methods such as presplit and zone blasting, shallow lifts, reduction in size of individual blasts, small diameter blast holes, closely spaced blast holes, reduction of explosives, greater distribution of explosives by use of decking and primacord or variation in density of explosives.

1.3.3 Overshooting

The Contractor shall control the blasting procedures so as not to overshoot. Any material outside the authorized channel cross section on the side slopes which may be shattered or loosened because of blasting shall be removed and/or re-compacted by the Contractor at his expense. Shattered or loosened material below the bottom limits of the required excavation shall be uniformly distributed and compacted or otherwise disposed of in a manner satisfactory to the Contracting Officer. The Contractor shall discontinue any method of blasting which leads to overshooting or is dangerous to the public, destructive of natural or man-made features, or is injurious to wildlife and habitat.

1.3.4 Equipment

The Contractor shall provide suitable vibration monitoring equipment to measure and record the ground motions associated with each blast. The monitoring equipment will be placed to monitor the effects of the blasting at the 200 foot distance.

1.3.5 Notifications

The Contractor shall notify each property owner and public utility company having structures or facilities in proximity to the site of the work of his intention to use explosives. Such notice shall be given sufficiently in advance to enable the companies to take such steps as they may deem necessary to protect their property from injury.

1.3.6 Qualifications

During blasting operations, the Contractor shall have on site, and in immediate charge of the blasting, a licensed blaster acceptable to the Contracting Officer who has had no less than 3 years of experience in controlled blasting and rock excavation operations. Powder handlers shall have had no less than one year continuous experience in preparation and loading of powder charges.

1.3.7 Post-Blast Reports

In addition to the reporting requirements required above, a separate Post-Blast Report of each blast shall be prepared and furnished to the Contracting Officer on an approved form. The report shall indicate the location of the blast by specific stationing, depth of round, pounds of explosives used by type and grade, total number of loaded holes, total pounds per delay, quantity and kind of explosive in each hole, maximum measured blast vibration, and any other blast information directed by the Contracting Officer.

1.3.8 Explosives

1.3.8.1 Safety

The contractor shall fully comply with Section 29, Blasting, U. S. Army Corps of Engineers Safety and Health Requirements Manual, EM 385 -1-1, dated 3 September 1996.

1.3.8.2 Storage

The Contractor shall submit to the Contracting Officer, for approval, drawings showing the location, access to and type of construction of the proposed storage magazine for explosives, and cap house. The explosives storage magazine and other facilities may be located on project lands if a satisfactory location can be found and is approved by the Contracting Officer. The Contractor shall maintain the explosive storage area at his own expense.

1.4 PRESERVATION OF PROPERTY

All excavation operations shall be conducted in such a manner that concrete structures, embankments, utilities, roads or other facilities and improvements which are to remain in place permanently will not be subjected to settlement or horizontal movement. The contractor shall furnish and install sheet piling, cribbing, bulkheads, shoring, or whatever means may be necessary to adequately support material carrying such improvements or to support the improvements themselves and shall maintain such means in position until they are no longer needed. Temporary sheet piling, cribbing, bulkheads, shoring or other protective means shall remain the property of the Contractor and when no longer needed, shall be removed from the site. The Contractor shall submit for approval shop drawings showing the proposed method of bracing he intends to use. All shoring and bracing shall be designed so that it is effective to the bottom of the excavation, and shall be based upon calculation of pressures exerted by (and the condition and nature of) the materials to be retained, including surcharge imparted to the to the side of the trench by equipment and stored materials. Removal of shoring shall be performed in such a manner as not to disturb or damage the finished concrete or other facility.

1.5 EXCAVATION FOR STRUCTURES

Excavation within the vicinity of existing structures, utilities, roads, and drainage pipes to remain in place shall be performed in a manner to prevent damage to the structure. Earth banks and facilities to remain in place shall be supported as necessary during excavation. Potential for damage resulting from severe vibration may limit the Contractor's operations or choice of equipment. In general, unless otherwise shown or specified, the actual side slopes shall be in accordance with COE EM 385-1-1.

1.6 EXCAVATION CHANNEL

Channel excavation consists of the removal of all materials within the lines and grades indicated.

1.7 REMOVAL OF UNSATISFACTORY SOILS

The removal of soils or materials which are unsatisfactory for the foundation of the channel, or structures may be required in certain areas. Unsatisfactory soils or materials include but are not limited to those materials containing roots and other organic matter, trash, debris and materials classified in ASTM D 2487, as Pt, OH, OL, CH, MH, and materials too wet to support construction equipment. Channel subgrade materials that cannot be brought to 95% compaction after scarification, shall be removed. The Contractor will be required to excavate any such areas to the depth directed and backfill the removal areas with compacted fill conforming to the requirements of SECTION 02250 FILLS AND SUBGRADE PREPARATION.

1.8 DISPOSITION AND DISPOSAL OF EXCAVATED MATERIALS

Excavated materials suitable for required fills shall be placed in temporary stockpiles or used directly in the work. Excess excavated (satisfactory) natural material not utilized as part of the construction shall be stockpiled at the disposal site shown on drawing C-2. Materials to be placed in disposal site shall be free from trash, dumped debris and demolition products, and shall consist of no materials suspected of having characteristics of hazardous and/or toxic waste. Materials characterized as unsatisfactory soil including trash, dumped debris and demolition products shall become the property of the Contractor and shall be removed from the project site in accordance with requirements Section 1130 ENVIRONMENTAL PROTECTION and Section 01200 GENERAL REQUIREMENTS. No excavated material or waste of any kind shall be removed beyond the project limits under this contract without the express written authority of the Contracting Officer. Prior to placing material, the approved stockpile area(s) shall be cleared of trash and vegetation. Vegetation shall be removed by grading the existing ground surface to a depth of 6 inches. Any stockpiles shall be placed in a manner to preclude ponding of water. Natural ground surface soils thus removed will then be designated as either:

- i. materials to be salvaged, or
- ii. scrap or unsatisfactory soils

to be treated as specified above and in SECTION 02150 CLEAR SITE AND REMOVE OBSTRUCTIONS.

1.8.1 Hauled Excavated Material

The Contractor shall have a routing plan for haul within the project limits, including removal of required excavated materials and placing fill materials.

The haul route plan shall be submitted to the Contracting Officer for approval. The Contractor will be responsible for obtaining all permits and licenses necessary to haul material off-site. The Contractor will provide to the Contracting Officer three copies of the proposed street haul route plan for transport of all excess excavated material.

1.9 OVERCUT

Except as otherwise specified or specifically ordered in writing, any overcut or excavation beyond the lines and grades indicated in the plans (or as directed) shall be backfilled with compacted fill conforming to the Section 02250 FILLS AND SUBGRADE PREPARATION, or concrete conforming to the Section 03301 CAST-IN-PLACE STRUCTURAL CONCRETE. The Contractor shall expect to overbuild and trim back the compacted fill required to backfill overcuts made at trapezoidal channel sections. All excavating, backfilling, compacting of backfill, and concreting occasioned thereby shall be by the Contractor at no additional cost to the Government. Any overcut under existing or newly constructed channels and structures shall be backfilled with concrete.

2 PRODUCTS (Not Applicable)

3 EXECUTION (Not Applicable)

■ End of Section -

June 1, 1999
Project No. 31-300304

Mr. Chuck Joseph
Parsons Transportation Group
3075 East Flamingo Road
Las Vegas, Nevada 89121

**Subject: Temporary Excavation Slopes
Las Vegas Beltway Drainage Channel
Haulapi to Sahara Avenue
Clark County, Nevada**


Dear Mr. Joseph:

As was discussed during our meeting with Clark County and the Corps of Engineers on May 25, 1999, temporary excavation cut slopes for construction of the drainage structures may be indicated as 1:1 (horizontal:vertical) on plans and in specifications. This indicated extent of earthwork excavation may be used to calculate quantities for cost estimating purposes.

We trust this letter provides the information you require at this time. If you have any questions regarding this letter, please do not hesitate to contact our office.

Respectfully submitted,

KLEINFELDER, INC.


Walter E. Vanderpool, P.E.
Senior Engineer

WEV:dp

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SECTION 02720

REINFORCED CONCRETE PIPE STUBOUTS

PART 1 GENERAL.

1.1 REFERENCES.

The publications listed below form a part of this specification to the extent referenced. The publications are referred to in the text by basic designation only.

AMERICAN SOCIETY FOR TESTING AND MATERIALS (ASTM)

ASTM C 76	(1995) Reinforced Concrete Culvert, Storm Drain, and Sewer Pipe
ASTM C 655	(1994) Reinforced Concrete D-Load Culvert, Storm Drain, and Sewer Pipe
ASTM C 828	(1990; R 1996) Low-Pressure Air Test of Vitrified Clay Pipe Lines
ASTM C 924	(1989; R 1997) Concrete Pipe Sewer Lines by Low-Pressure Air Test Method

UNIFORM STANDARD DRAWINGS FOR PUBLIC WORKS' CONSTRUCTION OFF-SITE IMPROVEMENTS, CLARK COUNTY AREA NEVADA

NEVADA DEPARTMENT OF TRANSPORTATION STANDARD PLANS FOR ROAD AND BRIDGE CONSTRUCTION

1.2 SUBMITTALS.

Government approval is required for submittals with a "GA" designation; submittals having an "FIO" designation are for information only. The following shall be submitted in accordance with Section 01300 SUBMITTAL PROCEDURES.

SD-06, Instructions

Placing Pipe; GA.

Printed copies of the manufacturer's recommendations for installation procedures of the material being placed, prior to installation.

SD-13, Certificates

Pipeline Testing; GA.

Certified copies of test reports demonstrating conformance to applicable pipe specifications, before pipe is installed.

1.3 DELIVERY, STORAGE, AND HANDLING OF MATERIALS.

1.3.1 Delivery and Storage.

Materials delivered to site shall be inspected for damage, unloaded, and stored with the minimum of handling. Do not store materials directly on the ground. Inside of pipes and fittings shall be kept free of dirt and debris. Gasket materials and plastic materials shall be protected from exposure to the direct sunlight over extended periods.

1.3.2 Handling.

Materials shall be handled in such a manner as to insure delivery to the trench in sound undamaged condition. Pipe shall be carried to the trench not dragged.

PART 2 PRODUCTS.

2.1 GENERAL.

The reinforced concrete pipe conduit shall be constructed as shown and as specified. Concrete shall conform to the applicable requirements of the section: CAST-IN-PLACE STRUCTURAL CONCRETE. Where pipe is embedded in concrete, the pipe shall be supported in such a manner to hold it rigidly in position while concrete is placed. Earthwork about the conduit shall conform to the applicable requirements of the section: EXCAVATION, TRENCHING, AND BACKFILLING FOR UTILITIES SYSTEMS. Specified and/or indicated D-loading is the minimum acceptable, and heavier pipe may be furnished at the option of the Contractor.

2.2 Concrete Pipe.

2.2.1 MATERIALS.

Reinforced Concrete Pipe shall conform to the requirements of ASTM C 76, CLASS III. The following additional markings shall be clearly stenciled on the pipe:

Permissible D-load to produce a 0.01-inch crack
Internal diameter in inches

2.2.2 TESTS FOR PIPE.

Certified copies of test reports, demonstrating conformance to the applicable pipe specifications, shall be furnished the Contracting Officer before installation of the pipe. Strength tests for concrete pipe, as required in the applicable specifications, shall be the three-edge bearing tests.

2.3 MISCELLANEOUS MATERIALS.

2.3.1 Concrete.

Unless otherwise specified, concrete and reinforced concrete shall conform to the requirements for 3,000 psi concrete under Section 03301 CAST-IN-PLACE STRUCTURAL CONCRETE.

2.3.2 Joints.

2.3.2.1 Mortar joints.

Mortar for pipe joints, connections to other drainage structures, and brick or block construction shall conform to ASTM C 270, Type M, except the maximum placement time shall be 1 hour. The quantity of water in the mixture shall be sufficient to produce a stiff workable mortar. Water shall be clean and free of harmful acids, alkalies, and organic impurities. The mortar shall be used within 30 minutes after the ingredients are mixed with water. The inside of the joint shall be wiped clean and finished smooth. The mortar head on the outside shall be protected from air and sun with a proper covering until satisfactorily cured.

2.3.2.2 COMPOSITION.

Mortar for joints shall be composed of cement, sand, and water proportioned at the approximate ratio of one part cement to not more than two parts sand. The materials shall conform to the applicable requirements of the section: CAST-IN-PLACE STRUCTURAL CONCRETE.

2.3.2.3 MIXING.

The mortar shall be mixed in a concrete mixer in the manner specified for concrete, or in a watertight mixing box. If mixed in a box, the box shall first be filled with the required amount of sand, the volume of which shall be determined with a one-cubic-foot measuring box. The requisite amount of cement shall then be added and the material dry mixed by turning at least three times with a mortar hoe. Sufficient water shall then be added and the mixing continued until the batch is uniform in color and consistency. Mortar shall show no visible signs of setting and shall be used within a period of 30 minutes after mixing with water. No retempering will be permitted.

PART 3 EXECUTION.

3.1 EXCAVATION FOR PIPE SIDE DRAINS AND DRAINAGE STRUCTURES.

Excavation of trenches and for appurtenances and backfilling for culverts and storm drains shall be in accordance with the applicable portions of Section 02220 EXCAVATION.

3.2 BEDDING.

3.2.1 Concrete Pipe.

The bedding surface for the pipe shall provide a firm foundation of uniform density throughout the entire length of the pipe. Bedding material type and thickness shall be in accordance with the pipe manufacturer recommendations. When no bedding class is specified or recommended by the pipe manufacturer, concrete pipe shall be bedded carefully in a soil foundation accurately shaped and rounded to conform to the lowest one-fourth of the outside portion of circular pipe or to the lower curved portion of pipe arch for the entire length of the pipe or pipe arch. When necessary, the bedding shall be tamped. Bell holes and depressions for joints shall be only of such length, depth, and width as required for properly making the particular type of joint.

3.3 Placing and Laying

Pipe and accessories shall be carefully lowered into the trench by means of derrick, ropes, belt slings, or other authorized equipment. Water-line materials shall not be dropped or dumped into the trench. Abrasion of the pipe coating shall be avoided. Except where necessary in making connections with other lines or as authorized by the Contracting Officer, pipe shall be laid with the bells facing in the direction of laying. The full length of each section of pipe shall rest solidly upon the pipe bed, with recesses excavated to accommodate bells, couplings, and joints. Pipe that has the grade or joint disturbed after laying shall be taken up and relaid. Pipe shall not be laid in water or when trench conditions are unsuitable for the work. Water shall be kept out of the trench until joints are complete. When work is not in progress, open ends of pipe, fittings, and valves shall be securely closed so that no trench water, earth, or other substance will enter the pipes or fittings. Where any part of the coating or lining is damaged, the repair shall be made by and at the Contractor's expense in a satisfactory manner. Pipe ends left for future connections shall be valved, plugged, or capped, and anchored, as shown.

3.4 Reinforced Concrete Pipe Installation

Reinforced concrete pipe shall be installed in accordance with recommendations of the pipe manufacturer. Before laying reinforced concrete pipe, the outside surface of the spigot and the inside surface of the bell shall be cleaned and an acceptable vegetable-compound lubricant applied to the inside surface of the bell and to the rubber gasket. Where prescribed by the pipe manufacturer, the gasket shall be placed in the groove on the end of the pipe before the pipe is placed in the trench. After the pipe has been forced together, the position of the rubber gasket shall be checked with a feeler gauge in accordance with the pipe manufacturer's recommendations. Tapping of reinforced concrete cylinder pipe shall be done in accordance with the manufacturer's approved recommendations. Where the manufacturer recommends that the taps be made by attaching the rubber-gasketed saddle to the outside of the pipe using U-bolts, the saddle shall be grouted in if necessary, the mortar coating shall be chipped away, even with the hole in the saddle plate. The exposed circumferential wires shall be removed and the cylinder and concrete core drilled out, and the steel saddle and U-bolts shall be protected by concrete encasement.

3.5 JOINTS.

3.5.1 Jointing

3.5.1.1 Reinforced Concrete Pipe Requirements

The inside and outside annular spaces between abutting sections of concrete pipe shall be filled with rich cement mortar in accordance with the pipe manufacturer's recommendations. Excess mortar shall be removed from interior annular spaces, leaving a smooth and continuous surface between pipe sections. Exposed portions of steel joint rings shall be protected from corrosion by a metallic coating or by an approved nonmetallic coating. Rubber gaskets shall be handled, lubricated where necessary, and installed in accordance with the pipe manufacturer's recommendations.

3.6 SIDE DRAIN.

3.6.1 Side Drain Junction Structures.

Side drain pipes and stubout pipes shall join the outlet channel with junction structures. Construction of junction structures shall be of reinforced concrete complete as shown on the drawings.

3.7 Deleted

-- End of Section --

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SECTION 02730

MANHOLES

PART 1 GENERAL

1.1 REFERENCES

The publications listed below form a part of this specification to the extent referenced. The publications are referred to in the text by basic designation only.

AMERICAN SOCIETY FOR TESTING AND MATERIALS (ASTM)

ASTM C 94	(1990)	Ready-Mixed Concrete
ASTM C 150	(1989)	Portland Cement
ASTM C 478	(1990b)	Precast Reinforced Concrete Manhole Sections
ASTM C 924	(1989)	Concrete Pipe Sewer Lines by Low-Pressure Air Test Method
ASTM D 2751	(1991)	Acrylonitrile-Butadiene-Styrene (ABS) Sewer Pipe and Fittings
ASTM D 3034	(1989)	Type PSM Poly(Vinyl Chloride) (PVC) Sewer Pipe and Fittings
ASTM D 3212	(1989)	Joints for Drain and Sewer Plastic Pipes Using Flexible Elastomeric Seals
ASTM F 477	(1990)	Elastomeric Seals (Gaskets) for Joining Plastic Pipe

FEDERAL SPECIFICATIONS (FS)

FS QQ-C-40 (Basic; Am 2: Notice 1) Caulking: Lead Wool and Lead Pig

FS RR-F-621 (Rev E) Frames, Covers, Gratings, Steps, Sump and Catch Basin, Manhole

NATIONAL FIRE PROTECTION ASSOCIATION (NFPA)

NFPA 49	(1975) Hazardous Chemicals Data
NFPA 325M	(1991) Fire Hazard Properties of Flammable Liquids, Gases, and Volatile Solids

1.2 GENERAL REQUIREMENTS

The construction required herein shall include precast concrete manhole. The Contractor shall replace damaged material and redo unacceptable work at no additional cost to the Government. Excavation and backfilling is specified in Section 02222: EXCAVATION, TRENCHING, AND BACKFILLING FOR UTILITIES SYSTEMS. Backfilling shall be accomplished after inspection by the Contracting Officer.

1.2.1 Protection of Materials

Before, during, and after installation, fittings shall be protected from any environment that would result in damage or deterioration to the material. The Contractor shall have a copy of the manufacturer's instructions available at the construction site at all times and shall follow these instructions unless directed otherwise by the Contracting Officer.

1.3 SUBMITTALS

Government approval is required for submittals with a "=" designation; submittals having an "FIO" designation are for information only. The following shall be submitted in accordance with Section 01300: SUBMITTAL DESCRIPTIONS:

SD-13 Certificates

Portland Cement; GA; CD/OD.

Certificates of compliance stating the type of cement used in manufacture of concrete pipe, fittings and precast manholes.

PART 2 PRODUCTS

2.1 JOINTS

Joints installation shall comply with the manufacturer's instructions.

2.2 FRAMES AND COVERS

Frames and covers shall be cast iron, ductile iron or reinforced concrete. Cast iron frames and covers shall be as indicated and shall conform to FS RR -F-621, type as suitable for the application, circular, without vent holes. The frames and covers shall have a combined weight of not less than 400 pounds. Reinforced concrete frames and covers shall be as indicated. The word "Storm Drain" shall be stamped or cast into covers so that it is plainly visible.

2.3 MANHOLE STEPS

Manhole Steps shall be installed per Clark County's standard drawing for Manhole Steps.

2.4 CEMENT MORTAR

Cement mortar shall conform to ASTM C 270, Type M with Type II cement.

2.4.1 Portland Cement

Portland cement shall conform to ASTM C 150, Type II for concrete used in manholes and type optional with the Contractor for cement used in concrete cradle, concrete encasement, and thrust blocking.

2.4.2 Portland Cement Concrete

Portland cement concrete shall conform to ASTM C 94, compressive strength of 4000 psi at 28 days, except for concrete cradle and encasement or concrete blocks for manholes. Concrete used for cradle and encasement shall have a compressive strength of 2500 psi minimum at 28 days. Concrete in place shall be protected from freezing and moisture loss for 7 days.

2.5 STRUCTURES

2.5.1 Precast Reinforced Concrete Manhole Sections

Precast reinforced concrete manhole sections shall conform to ASTM C 478, except that portland cement shall be as specified herein. Joints shall be cement mortar, or an approved mastic or rubber gasket, or an approved combination of these types.

PART 3 EXECUTION

3.1 MANHOLES

3.1.1 General

Manholes shall be constructed of precast concrete manhole sections. The invert channels shall be smooth and semicircular in shape conforming to the inside of the adjacent sewer section. Changes in direction of flow shall be made with a smooth curve of as large a radius as the size of the manhole will permit. Changes in size and grade of the channels shall be made gradually and evenly. The invert channels shall be formed directly in the

concrete of the manhole base, or shall be built up with brick and mortar, or shall be half tile laid in concrete, or shall be constructed by laying full section sewer pipe through the manhole and breaking out the top half after the surrounding concrete has hardened. Pipe connections shall be made to manhole using water stops, standard O-ring joints, special manhole coupling, or shall be made in accordance with the manufacturer's recommendation. The Contractor's proposed method of connection, list of materials selected, and specials required, shall be approved prior to installation. The floor of the manhole outside the channels shall be smooth and shall slope toward the channels not less than 1 inch per foot nor more than 2 inches per foot. Free drop inside the manholes shall not exceed 1 foot 6 inches, measured from the invert of the inlet pipe to the top of the floor of the manhole outside the channels, and drop manholes shall be constructed whenever the free drop would otherwise be greater than 1 foot 6 inches.

3.1.2 Manhole Steps

Manhole Steps shall be adequately anchored to the wall as indicated on Clark County;s standard drawing for Manhole Steps. Manhole steps spacing shall be 12" to 16" apart, and shall be installed as indicated. The wall along the line of the ladder shall be vertical for its entire length.

3.1.3 Jointing and Plastering

Mortar joints shall be completely filled and shall be smooth and free from surplus mortar on the inside of the manhole. Mortar and mastic joints between precast rings shall be full-bedded in jointing compound and shall be smoothed to a uniform surface on both the interior and exterior of the manhole. Installation of rubber gasket joints between precast rings shall be in accordance with the recommendations of the manufacturer.

3.1.4 Frames and Covers

Unless otherwise indicated, tops of frames and covers shall be set flush with finished grade in paved areas or from 6 to 9 inches higher than finished grade in unpaved areas.

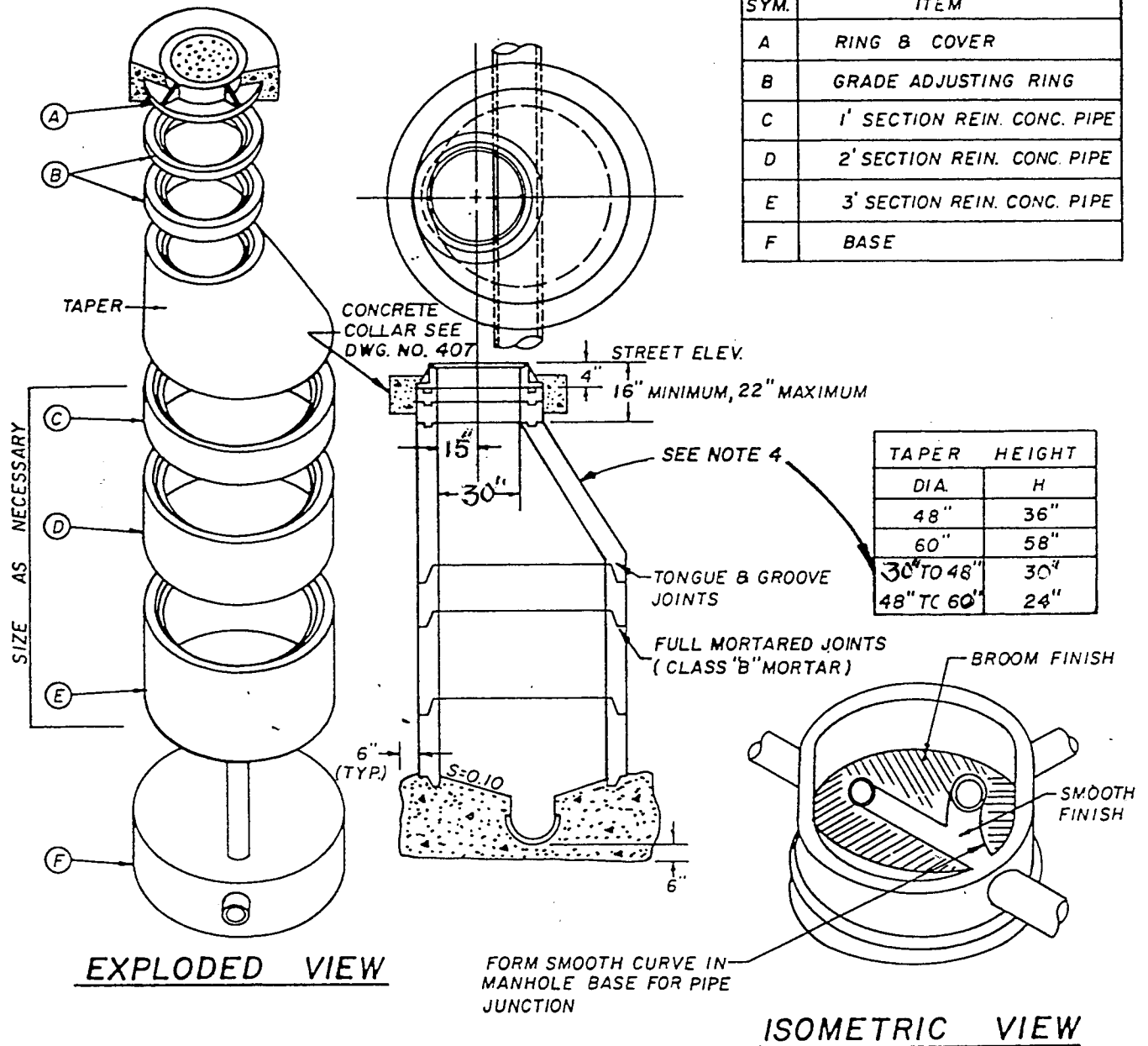
3.2 CONNECTION TO EXISTING GRAVITY SEWER LINE

Pipe connection to existing gravity sewer line shall be made in such manner that the finish work will conform as nearly as practicable to the essential applicable requirements specified for new gravity sewer lines, including all necessary concrete work, cutting, and shaping.

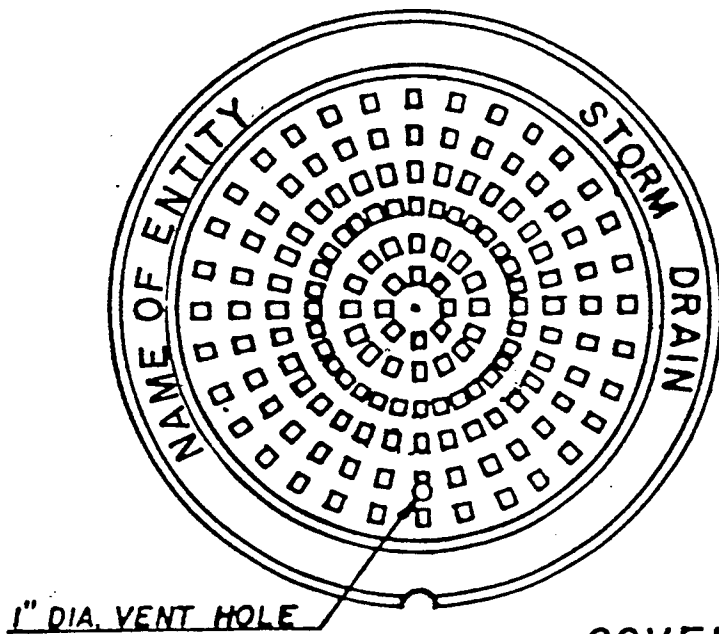
3.3 CLEANOUTS AND OTHER APPURTENANCES

Cleanouts and other appurtenances shall be installed where shown on the drawings or as directed by the Contracting officer, and shall conform to the detail of the drawings.

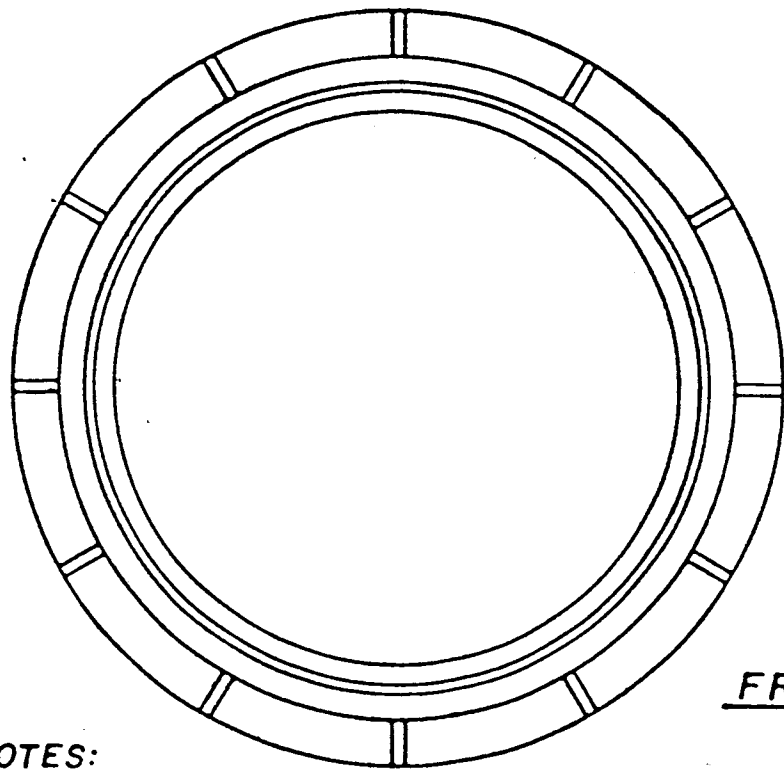
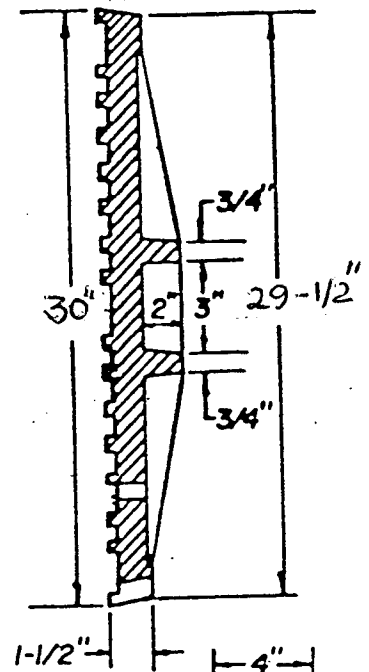
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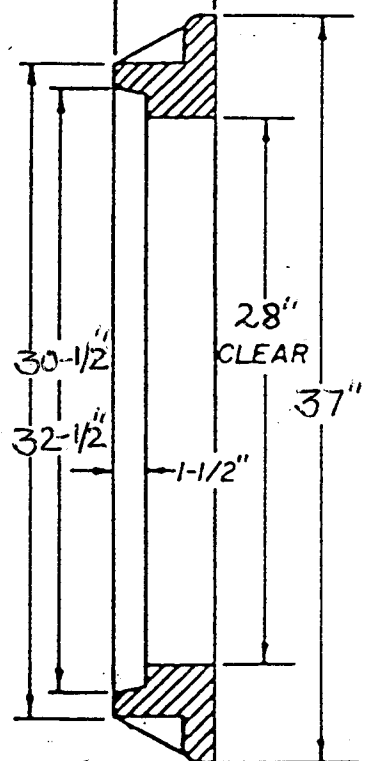
SPECIFICATION REFERENCE		UNIFORM STANDARD DRAWINGS CLARK COUNTY AREA		
501	CONCRETE & MORTAR	TYPE I MANHOLE		
609	CATCH BASINS, MANHOLES & INLETS			
		DATE	DWG. NO. 403	PAGE NO. 103



COVER



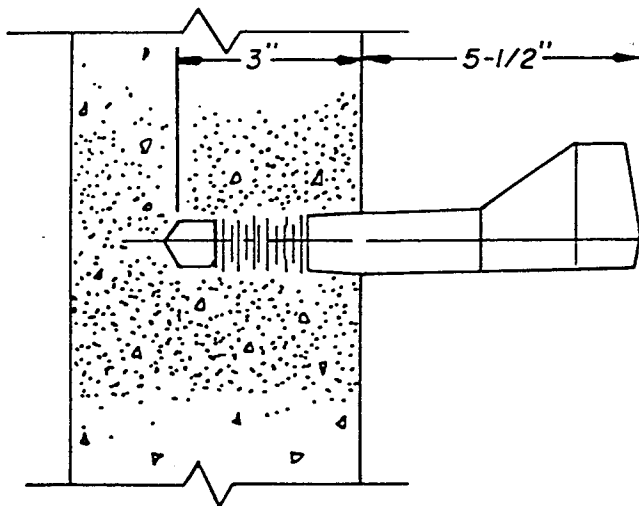
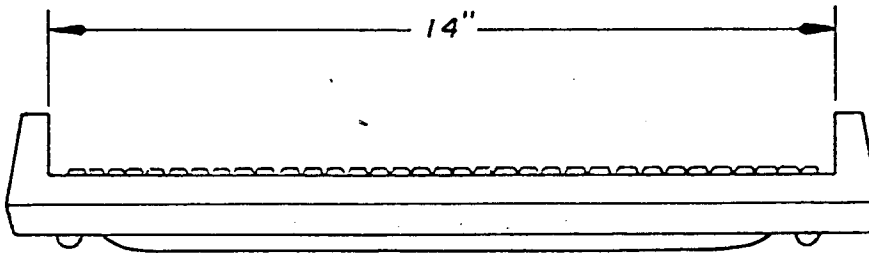
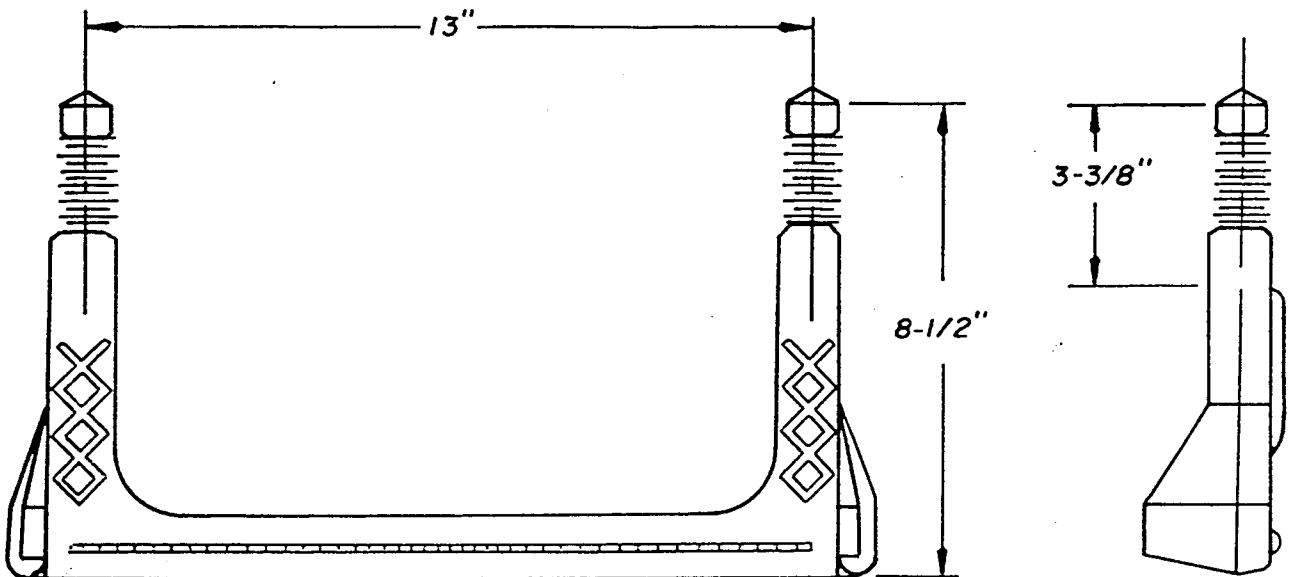
FRAME



NOTES:

1. FRAME AND COVER TO BE ALHAMBRA FOUNDRY COMPANY TYPE A1310 IN ACCORDANCE WITH ASTM A-48, CLASS 30, OR APPROVED EQUAL.
2. CAST IRON SHALL HAVE MINIMUM TENSILE STRENGTH OF 30,000 P.S.I.
3. FRAME AND COVER MACHINED TO FIT.
4. WEIGHT OF FRAME AND COVER 330 LBS. MINIMUM.

SPECIFICATION REFERENCE		UNIFORM STANDARD DRAWINGS CLARK COUNTY AREA	
712	MISCELLANEOUS METALS		
		STANDARD MANHOLE COVER AND RING	
DATE		DWG. NO. 409	PAGE NO. 109



NOTES:

1. MANHOLE STEP SHALL CONFORM TO A.S.T.M. C-478 AND C-497.
2. ALUMINUM STEPS SHALL BE SOLID, MADE FROM MATERIAL IN CONFORMANCE WITH A.S.T.M. B221 (ALLOY 6005-TS).
3. REINFORCED PLASTIC STEPS SHALL BE POLYPROPYLENE PLASTIC, WITH NO. 4 (MIN) DEFORMED STEEL ROD (GRADE 60/A.S.T.M. A-65).
4. STEPS SHALL BE EVENLY SPACED FROM 12" TO 16".

MANHOLE STEPS

SPECIFICATION REFERENCE		UNIFORM STANDARD DRAWINGS CLARK COUNTY AREA		
		STANDARD MANHOLE STEPS		
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**Attachment: Pedestrian Hand Rail - NDOT (Modified) Standard Drawing
B-25.1.5, dated July 14, 1999.**

-- End of Section Table of Contents --

SECTION 05500

MISCELLANEOUS METAL

PART 1 GENERAL

1.1 REFERENCES

The publications listed below form a part of this specification to the extent referenced. The publications are referred to in the text by basic designation only.

AMERICAN SOCIETY FOR TESTING AND MATERIALS (ASTM)

ASTM A 36	(1994a) Carbon Structural Steel
ASTM A 53	(1995a) Pipe, Steel, Black and Hot-Dipped, Zinc-Coated Welded and Seamless
ASTM A 123	(1989a) Zinc (Hot-Dip Galvanized) Coatings on Iron and Steel Products
ASTM A 320	(1994a) Alloy Steel Bolting Materials for Low-Temperature Service
ASTM B 32	(1993) Solder Metal
ASTM C 270	(1995) Mortar for unit Masonry
ASTM C 476	(1995) Grout for Masonry

AMERICAN WELDING SOCIETY (AWS)

AWS D1.1	(1994) Structural Welding Code - Steel
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FEDERAL SPECIFICATIONS (FS)

FS FF-B-575	(Rev C) Bolts, Hexagon and Square
FS FF-N-836	(Rev D; Am 3) Nut: Square, Hexagon, Cap, Slotted, Castle, Knurled, Welding and Single Ball Seat
FS FF-S-325	(Basic; Int Am 3; Notice 1) Shield, Expansion; Nail, Expansion; and Nail, Drive Screw (Devices, Anchoring, Masonry)
FS QQ-B-750	(Am 2) Bronze, Phosphor; Bar, Plate,
FS QQ-S-763	(Rev E; Am 1) Steel Bars, Wire, Shapes, and Forgings, Corrosion Resisting

1.2 SUBMITTALS

Government approval is required for submittals with a "GA" designation; submittals having an "FIO" designation are for information only. The following shall be submitted in accordance with Section 01300 SUBMITTAL PROCEDURES:

SD-04 Drawings

Miscellaneous Metal Items; GA.

Detail drawings indicating material thickness, type, grade, and class; dimensions; and construction details. Drawings shall include catalog cuts, erection details, manufacturer's descriptive data and installation instructions, and templates. Detail drawings for the following items: pedestrian hand rail, wall ladder rungs and other miscellaneous metalwork.

1.3 GENERAL REQUIREMENTS

The Contractor shall verify all measurements and shall take all field measurements necessary before fabrication. Welding to or on structural steel shall be in accordance with AWS D1.1. Items specified to be galvanized, when practicable and not indicated otherwise, shall be hot-dip galvanized after fabrication. Galvanizing shall be in accordance with ASTM A 123 as applicable. Exposed fastenings shall be compatible materials, shall generally match in color and finish, and shall harmonize with the material to which fastenings are applied. Materials and parts necessary to complete each item, even though such work is not definitely shown or specified, shall be included. Poor matching of holes for fasteners shall be cause for rejection. Thickness of metal and details of assembly and supports shall provide strength and stiffness. Joints exposed to the weather shall be formed to exclude water.

PART 2 PRODUCTS

2.1 MATERIALS

2.1.1 General

Materials indicated on the drawings or required in the work and not covered elsewhere by detailed requirements shall conform to the requirements of this section. In all cases not specifically covered in these specifications, the Contractor shall furnish approved highest grade commercial materials or products which are suitable for the intended use of the item.

2.1.2 Structural Steel

Steel bars, shapes and plates shall conform to ASTM A 36. Galvanized coatings where required, shall conform to ASTM A 123.

2.1.3 Wall ladders Rungs (Galvanized)

Steel bars, shapes and plates shall conform to ASTM A 36. Galvanized coatings shall conform to ASTM A 123.

2.1.4 Steel Pipes

Steel pipe shall conform to ASTM A 53, Grade B, Type E or S, Galvanized,

standard size and weight as indicated on the drawings.

2.1.1.5 Corrosion-Resisting Steel Bolts and Anchor Bolts

Corrosion-resisting steel bolts and anchor bolts shall conform to FS QQ-S-763, Class 304, Condition A, or the applicable requirements of ASTM A 320, Grade B8.

2.1.1.6 Bolts

Bolts shall conform to FS FF-B-575. Bolts and anchor bolts shall conform to FS QQ-S-763, Class 304, Condition A, or the applicable requirements of ASTM A 320, Grade B8.

2.1.1.7 Nuts

Nuts shall conform to FS FF-N-836. Nuts shall be galvanized.

2.1.1.8 Washers

Washers shall conform to the applicable requirements of FS FF-N-836. Washers shall be galvanized.

2.1.1.9 Concrete, Mortar and Grout

Cast-In-Place Structural Concrete, mortar and grout shall conform to the requirements of Section 03301 CAST-IN-PLACE STRUCTURAL CONCRETE.

2.1.1.10 Coil Chain

Coil chain shall be galvanized and shall conform to the requirements of FS RR-C-271, Type 1, Grade C, Class 4. The chain shall be attached with a galvanized connecting link and shall accommodate a snap hook with latch and spring.

2.1.1.11 Pedestrian Hand Rail

2.1.11.1 Steel Railing

Steel railing shall be steel pipe conforming to ASTM A 53 or structural tubing conforming to ASTM A 500, Grade A or B of equivalent strength. Steel railing shall be 1-1/2 inch nominal size. Railings shall be hot-dip galvanized.

a. Joint posts, rail, and corners shall be fabricated by one of the following methods:

(1) Flush type rail fittings of commercial standard, weld and ground smooth with railing splice locks secured with 3/8 inch hexagonal recessed-head setscrews.

(2) Mitered and welded joints by fitting post to top rail and intermediate rail to post, mitering corners, groove welding joints, and grinding smooth. Railing splices shall be butted and reinforced by a tight fitting interior sleeve not less than 6 inches long.

(3) Railing may be bent at corners in lieu of jointing, provided bends are made in suitable jigs and the pipe is not crushed.

PART 3 EXECUTION

3.1 WORKMANSHIP

Miscellaneous metalwork shall be well formed to shape and size, with sharp lines and angles and true curves. Drilling and punching shall produce clean true lines and surfaces. Welding shall be continuous along the entire area of contact except where tack welding is permitted. Steel with welds will not be accepted, except where welding is definitely specified or called for on the drawings. All bolts, nuts, and screws shall be tight. Work shall be accurately set to established lines and elevations and securely fastened in place. Anchorage shall be provided where necessary for fastening miscellaneous metal and wood items securely in place. Anchorage not otherwise specified or indicated shall include slotted inserts made to engage with the anchors, expansion shields, and power-driven fasteners when approved for concrete; machine and carriage bolts for steel; and lag bolts and screws for wood.

3.2 FINISHING

In general, tolerances for machine-finished surfaces designated by nondecimal dimensions shall be within 1/64 inch. Sufficient machining stock shall be allowed on placing pads to insure true surfaces of solid material. Finished contacts of bearing surfaces shall be true and exact to secure full contact. All drilled holes for bolts shall be accurately located and drilled from templates.

3.3 ZINC COATING (GALVANIZING)

Zinc coatings shall be applied in a manner and of a thickness and quality conforming to ASTM A 123. All exposed ferrous metalwork, except cast-iron and corrosion resistant steel and items to be completely embedded in concrete, shall be galvanized unless other protective coatings are specified. Metalwork shall be galvanized after fabrication. In the event that any portion of galvanized metalwork is abraded or otherwise damaged to the extent that the base metal is exposed, such damaged or abraded portions shall be neatly covered with Grade 50B solder conforming to the requirements of ASTM B 32.

3.4 WELDING

Welding shall conform to the provisions of AWS D1.1. Welders who have not been certified within two years of the date of commencement of work under this contract will not be allowed to perform the work.

3.5 BOLTED CONNECTIONS

Bolt holes shall be reamed normal to the member and shall be truly cylindrical throughout. Unless otherwise specified, holes for bolts shall not be more than 1/16 inch larger than the diameter of the bolt. Cutting bolt holes with a torch will not be permitted without the prior written approval of the Contracting Officer. Materials and parts necessary to complete each item, even though such work is not definitely shown or specified, shall be included. Poor matching of holes for fasteners shall be cause for rejection. Fastenings shall be concealed where practicable.

3.6 EXCAVATION

Excavation for concrete-embedded items shall be of the dimensions indicated on the drawings. Holes shall be cleared of loose materials prior to placement of

concrete.

3.7 PEDESTRIAN HAND RAIL

Pedestrian Hand Rail shall be fabricated with galvanized steel pipe and shall be fabricated in the shop. Care shall be taken to deform pipe without "breaking" the steel. Any pipe deformations that demonstrate visible cracking or weakening may be cause for rejection. The pipe gate components shall be galvanized. Welded, cut, damaged, and deformed areas of galvanizing metal shall be neatly coated with Grade 50B solder conforming to ASTM B 32. The Contractor shall grease pipe thoroughly with grease conforming to FS VV-G-632 immediately after installation of chains at each gate opening. The Contractor shall examine and certify the operation of all pedestrian hand rail not sooner then 30 days after installation.

3.8 ATTACHMENT OF PEDESTRIAN HAND RAIL

Splices, where required, shall be made at expansion joints. Removable sections shall be installed as indicated.

3.8.1 Installation of Pedestrian Hand Rail

Installation shall be as indicated on NDOT Modified Standard Drawing B-25.1.5 located in the back of this section.

3.8.2 Grounding

Pedestrian hand rail, on both sides of channel, shall be grounded at/near the point of power line crossing and at distances not exceeding 150 feet. Ground rods shall be copper clad steel 3/4 inch by 10 foot. Ground conductor shall be No. 8 AWG solid copper wire. The top of the ground rods shall be at least 6 inches below the grade.

-- End of Section --

